

# APPENDIX C -- VEGETATION SURVEYS ALONG THE NORTHWEST FORK OF THE LOXAHATCHEE RIVER

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## INTRODUCTION

Floodplain vegetation along downstream segments of the Northwest Fork of the Loxahatchee River has changed over the past century from freshwater swamp dominated by bald cypress to salt-tolerant red mangrove swamp. Protection of upstream segments of this community requires that sufficient quantities of freshwater be provided that will protect the resource against significant harm and meet proposed minimum flow requirements. In order to derive the required minimum flow criteria, a relationship between salinity magnitude, duration and frequency and vegetation community changes (significant harm) must be established. To begin the process of understanding and documenting these relationships, field vegetation surveys were conducted along the Northwest Fork between 2000 and 2002. From these data, a relationship between measurable vegetation parameters, specific river locations, and long-term salinity conditions were established.

## METHODS

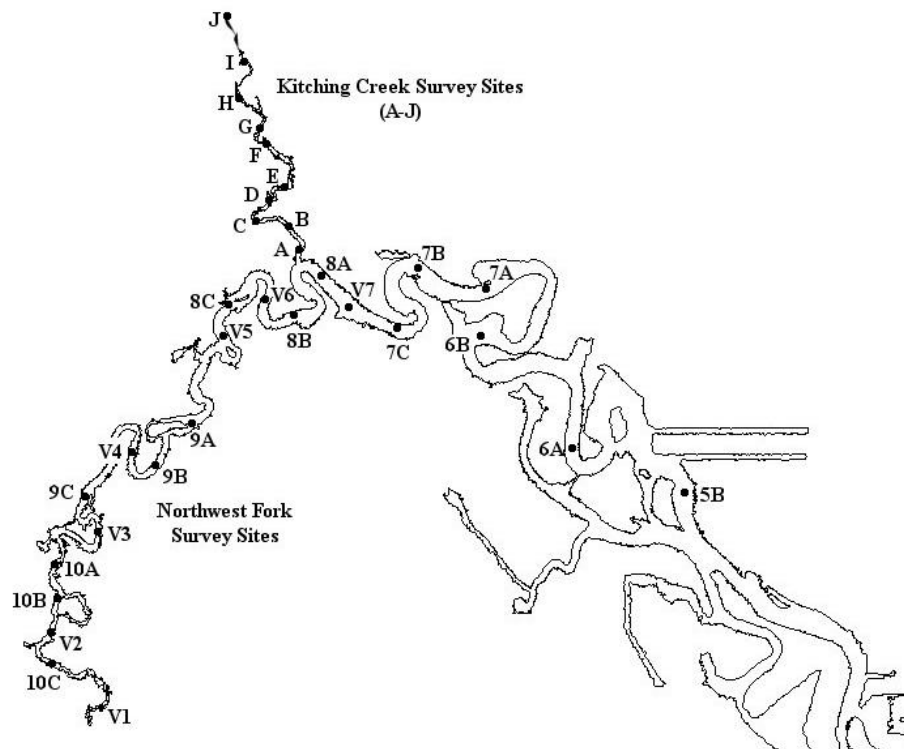
### ***Field Vegetation Survey***

Surveys of the floodplain swamp vegetation (vascular macrophytes) along the Northwest Fork (NW Fork) of the Loxahatchee River were conducted to characterize the species and community changes that occur along the salinity gradient upstream from the Jupiter Inlet and central embayment. These surveys provided both community-based (i.e., canopy structure analysis, total number of observed species, community composition) and species-based (i.e., abundance, number of individuals, height, trunk diameter, age class) information. Two methods of vegetation surveys were used; a semiquantitative method provided a more generalized view of the local community and a quantitative method gave more specific information about the site.

### **Semiquantitative Vegetation Survey**

A semiquantitative vegetation survey method, suitable for statistical analysis, was used by SFWMD biologists to examine community-wide changes along the NW Fork of the Loxahatchee River. This method was used primarily because: 1) it could be conducted in a short period of time, allowing more sites to be surveyed in the time available; 2) was not labor intensive; 3) provided a reliable and generalized perspective of the distribution of species; 4) and was more comprehensive in scope, as it allowed the entire plant assemblage to be accounted for rather than just selected species. Sixteen sites (labeled 5B through 10C) were selected and surveyed in November 2000 and seven additional verification sites (labeled V1 through V7) were surveyed in December 2001 (**Figure C-1**).

**Figure C-1. Location of Semiquantitative Vegetation Survey Sites along the Northwest Fork of the Loxahatchee River and Kitching Creek**



The locations of these sites were not random, but instead were based upon the following criteria:

- Vegetation survey sites were located more than 100 ft. from a river bend or oxbow. This was done to reduce the potential effects of shifting currents, riverbank dynamics, and river flow energy on vegetation community composition.

- Vegetation survey sites were located at or near the center of the River's floodplain and at least 100 ft. away from the floodplain-upland transitional zone. This was done to reduce the possible influence of freshwater seeps on vegetation community composition.

During the survey, vegetation was examined within an area of approximately 400 ft (122 m) by 50 ft (7.5 m) along each river bank at a site. All vascular plant (macrophyte) species present were recorded and an estimated abundance index for floodplain species (excluding aquatic and epiphytic species) was recorded. An abundance index was determined from a dichotomous key that categorized a species' abundance or cover into classes. This method is based upon a modified version of the Braun-Blanquet cover-abundance scale (Braun-Blanquet 1932, 1965; also see Mueller-Dombois & Ellenberg 1974, Bonham 1989) and was conducted as follows:

Description of Species Population Density	Abundance Index
1a. Species not present.....	0
1b. Species present:	
2a. Two or less individuals or less than 1% total coverage of area; rare.....	1
2b. More than two individuals or more than 1% total coverage of area:	
3a. Highly abundant or dense population (>75% cover), a dominant component of the plant community.....	4
3b. Species not a dominant component of the plant community.	
4a. Sparse; widespread and of low density or restricted to localized populations.....	2
4b. Common; widespread and of moderate density but not a dominant component of the plant community (<50% cover).....	3

This information was used to provide ground truthing to companion aerial photography studies of the River and to investigate general vegetation trends along the River that may be associated with different salinity conditions. It also was used to indicate potential “key” species of interest, to indicate where future quantitative survey methods should be concentrated, and to support the development of a vegetation-salinity model for the NW Fork. This semiquantitative method was also used to survey the lower Kitching Creek area in November 2000 (**Figure C-1**).

### Quantitative Vegetation Survey

A quantitative vegetation survey was conducted along the NW Fork of the Loxahatchee River in January 2002. Nine sites (V7, 8B, 8C, 9A, 9B, 9C, V3, 10B, and V1) that were previously surveyed by the semiquantitative method were re-surveyed (**Figure C-2**). Due to time constraints, site V3 was only partially surveyed, so the data collected there was limited. The data from these sites were compared with the results of the semiquantitative method and to correlate results with the calculated long-term salinity (see **Appendix H**). At each sampling site, two strip quadrats (belt transects) were established, one along each opposite shoreline. Each strip quadrat was 200 ft (60 m) by 25 ft (7.5 m), covering an area of 5000 ft<sup>2</sup> (465 m<sup>2</sup>). The selected area of each strip quadrat was larger than that typically used to estimate density in tree communities (see Bonham 1989).

**Figure C-2. Location of Quantitative Vegetation Survey Sites along the Northwest Fork of the Loxahatchee River**



At each of the nine sites, the parameters listed in **Table C-3** were measured and recorded for “key” species within a sampling plot. Age classes were defined as adults (mature), saplings (juvenile taller than breast height), seedlings (juveniles shorter than breast height), and stump sprouts (damaged adults that resprouted from a trunk). Tree height was estimated using the hypsometer method (BSA 1967, Bonham 1989); the estimator was located at a fixed distance from the tree and used a hypsometer tree scale to estimate the tree height. Mean tree canopy diameter (average of shortest and longest) and trunk circumference at breast height were measured with a tape measure. Tree canopy diameter was used to calculate tree cover area as follows:

$$\text{Cover} = [(\text{canopy diameter})/2]^2\pi$$

Tree canopy cover could, in some cases, exceed 100% of the survey area since multiple strata of leaf cover at different heights above the forest floor are possible within the forest structure. The cumulative tree canopy cover for tree height classes was used to examine vertical distribution of the canopy cover and its changes associated with salinity conditions. The tree diameter at breast height (DBH) was calculated from the measured trunk circumference as follows:

$$\text{DBH} = (\text{tree circumference at breast height}) / \pi$$

Due to time limitations, counts of red mangrove (*Rhizophora mangle*) were not conducted at sites where it was the dominant vegetation species. An estimate of the number of adults (approx. 200) was used, based upon the average canopy cover (25 ft<sup>2</sup>) of measured adults at other sites and plot size (5000 ft<sup>2</sup> total/ 25 ft<sup>2</sup> per adult =200 adults).

**Table C-1. Measured Parameters\* for Key Species.**

	Adults	Saplings	Seedlings	Stump Sprouts
Number of Individuals	X	X	X	X
Mean Canopy Diameter (used to calculate tree cover)	X	X		X
Tree Height	X	X		X
Trunk Circumference (used to calculate DBH)	X	X		X (cumulative)

DBH= trunk diameter at breast height

\*a discussion of the methods and importance of these parameters in forest studies can be found in Mueller-Dombois & Ellenberg 1974, Bonham 1989

“Key” species were defined as those selected from the results of the semiquantitative survey and a corresponding literature review to represent different salinity tolerances. They also have physiological characteristics that play important functional roles in the forest ecology and that make them useful as indicators of long-term salinity conditions. The criteria for selection of key species are as follows:

1. Species that are widely distributed within the floodplain corridor and in South Florida freshwater swamps (i.e. not found only in localized populations). This

criteria is used to ensure that observed trends are most likely not due to uneven distribution of populations.

2. Species that are significant components of the local riverine swamp community in terms of abundance and physical forest structure. This criteria was intended to exclude minor (rare) species and to select those that were primary constituents of forest structure, which allows changes to be more reliably measured by survey sample sizes.
3. Terrestrial species that are rooted in the soil substrate (i.e. not floating or epiphytic). This excludes aquatics, which may reflect only short-term (transient) salinity conditions.
4. Species that are relatively long lived (more than 10 years, i.e. generally woody or tree species), which are more reliable indicators of long-term conditions. Herbaceous species were excluded, as they typically have shorter life spans (less than 10 years).
5. Species that occupy different ecological niches and have different functional roles in the freshwater swamp (i.e. canopy, sub-canopy, shrubby). A decline in one or more of these functional roles can have ecological consequences, such as impacts to wildlife.
6. Species that are copious producers of differing seed types (e.g. berries, samaras, etc.) that are readily spread (e.g. air-borne, water-borne, bird-dispersed) throughout the area. This helps to ensure that an observed decline in seedling or sapling numbers is not related to species-specific dispersal characteristics.
7. Species that represent a range of saltwater tolerance and sensitivities (i.e. obligate freshwater species, saltwater tolerant species, and transitional species). This characteristic will help to document the range of salinity conditions and changes along the NW Fork.

Information gathered from the semiquantitative vegetation survey indicated that a group of ten species would fit the criteria described above. These species are listed in **Table C-2** along with their relative salinity tolerances obtained from a review of the available literature.



**Table C-2. Key Species Identified along the Northwest Fork of the Loxahatchee River**

Species	Saltwater Tolerance
Bald cypress ( <i>Taxodium distichum</i> )	Freshwater to slight salt tolerance <sup>a</sup>
Cabbage palm ( <i>Sabal palmetto</i> )	Freshwater to slight salt tolerance <sup>b</sup>
Laurel Oak ( <i>Quercus laurifolia</i> )	Freshwater <sup>c</sup>
Virginia willow ( <i>Itea virginica</i> )	Freshwater <sup>c</sup>
Dahoon holly ( <i>Ilex cassine</i> )	Freshwater <sup>c</sup>
Pop ash ( <i>Fraxinus caroliniana</i> )	Freshwater <sup>c</sup>
Pond apple ( <i>Annona glabra</i> )	Freshwater <sup>c</sup>
Red Bay ( <i>Persea borbonia</i> )	Freshwater <sup>c</sup>
Red mangrove ( <i>Rhizophora mangle</i> )	Salt tolerant <sup>c</sup>
Red maple ( <i>Acer rubrum</i> )	Freshwater <sup>c</sup>

<sup>a</sup>see Allen 1994; Allen et al. 1994, 1997; Conner 1992; Javanshir & Ewel 1993, Pezeshki et al. 1986, 1987, 1990, 1995.

<sup>b</sup>Cabbage palm is generally associated with freshwater and coastal habitats, see Johnson and Barbour 1990.

<sup>c</sup>see Tobe, et al. 1998.

Results from the quantitative vegetation survey were examined for trends by calculating means, standard deviations, medians, modes, as well as regression analysis correlating measured parameters (**Table C-1**) with estimated long-term salinity conditions at each site.

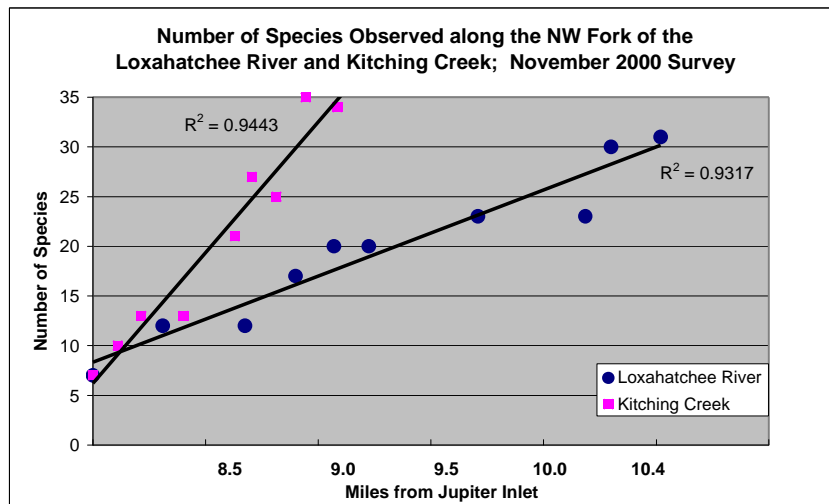
### **Vegetation Survey Results**

Field data from the vegetation surveys are presented in tables at the end of this appendix. Analysis of the vegetation data revealed a strong relationship between number of species observed at each site and proximity to the Jupiter Inlet (expressed as river mile), the source of salinity within the River (**Figures C-3a and C-3b**). This relationship was consistent and comparable between both the semiquantitative and quantitative vegetation survey methods. Result from the November 2000 semiquantitative vegetation survey (**Figure C-3a**) shows that the number of plant species (vascular macrophytes) decreases dramatically from upstream (freshwater) areas to downstream (more saltwater-

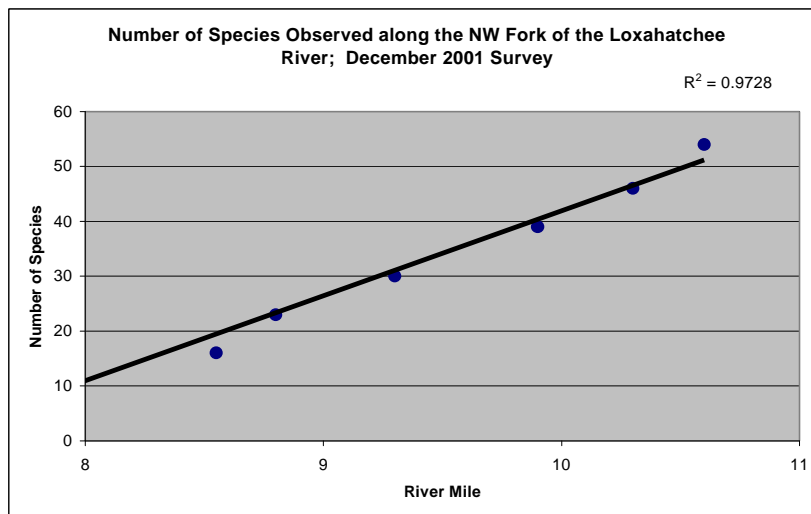
dominated) areas. A similar trend was observed along Kitching Creek (**Figure C-3a**) for data collected during the same period.

A second semiquantitative vegetation survey using the same method but at intermediate sites was conducted during the following year (2001) and revealed a similar trend (**Figure C-3b**), but with a higher total number of species. The differences in number of observed species could be accounted for by differences in weather patterns between the two years. The previous growing season (1998-2000) represented a drought period, whereas 2001 was a normal rainfall year that had relatively warm weather up until December. Although the total number of species differed, and perhaps would be expected to vary from year to year, the significant positive trend indicates that the number of floodplain plant species increases with distance from the inlet and hence is reduced as salinity increases.

**Figure C-3a. Number of Observed Vascular Plant Species along the Northwest Fork of the Loxahatchee River and Kitching Creek (November 2000 Semi-quantitative Vegetation Survey)**



**Figure C-3b. Number of Observed Vascular Plant Species along the Northwest Fork of the Loxahatchee River (December 2001 Semi-quantitative Vegetation Survey)**



The abundance of freshwater swamp trees, which form the basic structure of the upstream floodplain forest, declined with decreasing distance to the Jupiter Inlet (increasing salinity conditions). **Table C-3** shows the change in abundance of several important swamp canopy tree species along the NW Fork. Tree species associated with mixed freshwater swamps (bald cypress, dahoon, pop ash, and red maple) all declined in abundance at sites closer to the Inlet. Virginia willow, a woody shrub found in freshwater swamps, also exhibited the same decline. In contrast, red mangrove dominated areas more closer to the Inlet, but rapidly declined in abundance and was absent in the most upstream (freshwater) sites (**Table C-3**).

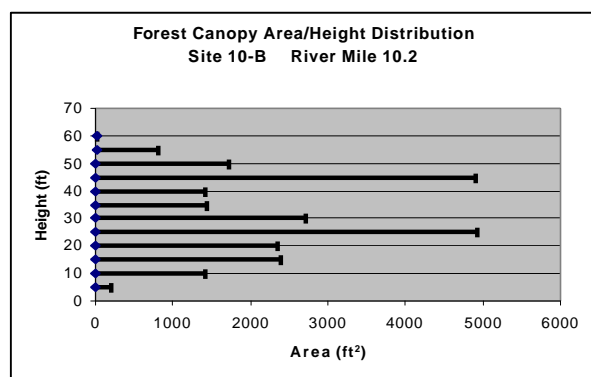
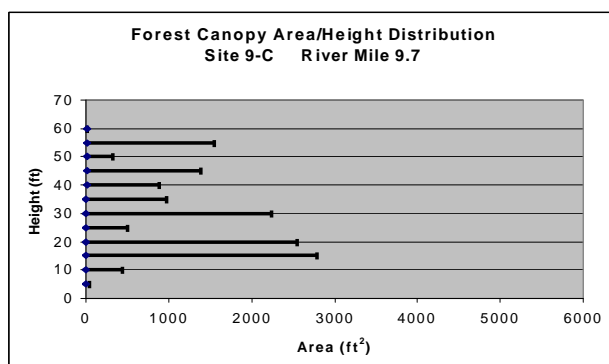
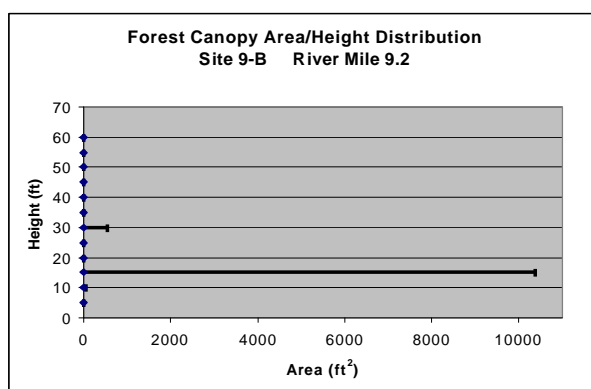
To examine canopy density and height changes between sites, the estimated canopy area and height of each tree were used. All tree heights at a site were sorted into incremental (5-ft) height classes between 0 and 60 ft. The canopy area for an individual tree, which was calculated from the estimated canopy diameter, was summed for each height class and graphed. This analysis revealed possible changes in the forest structure by river mile 9.7 and striking changes by river mile 9.2 (**Figures C-4a through C-4c**). The forest at river miles 10.6 and 10.2 appears as a complex structure with a high canopy (between 35-60 ft, dominated by bald cypress and swamp hardwoods) and a secondary canopy (between 15-30 ft, dominated by mixed hardwoods, bald cypress and pond apple) (**Figure C-4a**). Some shrubby species are found below the secondary canopy, at or less than 10 ft. The forest structure at river mile 9.7 shows a decrease in the area of the high canopy strata (**Figure C-4b**). At river mile 9.2 the high canopy has been virtually eliminated and replaced by a low canopy (red mangrove dominated) approximately 15 ft above the ground surface (**Figure C-4c**). These changes in forest structure can have profound effects on microclimate, ecological function, and species composition (both flora and fauna) of the swamp forest.

**Table C-3. Tree Abundance Index\* at points along the NW Fork of the Loxahatchee River**

	<b>River Mile (from the Jupiter Inlet)</b>																			
	<b>10.6</b>	<b>10.4</b>	<b>10.3</b>	<b>10.2</b>	<b>10.1</b>	<b>9.9</b>	<b>9.7</b>	<b>9.3</b>	<b>9.2</b>	<b>9.1</b>	<b>8.9</b>	<b>8.8</b>	<b>8.7</b>	<b>8.6</b>	<b>8.4</b>	<b>8.1</b>	<b>8.0</b>	<b>7.8</b>	<b>7.5</b>	<b>7.3</b>
Cabbage Palm	3	2	2.5	3	3	3	3	3	3	4	3.5	3.5	3.5	2	3	4	2	3.5	3	2.5
Bald Cypress	4	4	4	4	4	4	4	2	3	3	3.5	2	2	1	2	1	1	1	0	0
Red Maple	3.5	3.5	3	3	3	1	2	0	1	1	1	0	0	0	0	0	0	0	0	0
Dahoon	2	3	3.5	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0
Pond Apple	3.5	3.5	3	3	3.5	3.5	3	1	3	3	3	2	3	0	0	0	1	0	0	0
Red Bay	1.5	0	1	1.5	0	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0	0
Pop Ash	2.5	2	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0
Red Mangrove	0	0	1	0	0	2	2.5	3	4	4	4	4	4	4	4	4	4	4	4	4
Virginia Willow**	3.5	2	2.5	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0

\*see section entitled “**Semiquantitative Vegetation Survey**”

\*\*Virginia willow is a woody shrub, not a tree, but was included as it is an important component of the dominant woody vegetation in the freshwater community.

**Figure C-4a. Total Canopy Area Within Height Classes for Trees at Site 10B****Figure C-4b. Total Canopy Area Within Height Classes for Trees at Site 9C****Figure C-4c. Total Canopy Area Within Height Classes for Trees at Site 9B**

Results from the 2002 quantitative vegetation survey showed changes in numbers of individuals and other measured parameters of bald cypress, dahoon, pop ash, pond apple, red maple, and Virginia willow associated with distance from the Jupiter Inlet.

**Table H-4** shows the estimated long-term average salinity conditions at selected sites. When the average salinity event duration and time between events is expressed as a single value (**Figure H-1**), it can be used to statistically relate vegetation and salinity conditions at a site. The salinity ratio  $Ds/Db$  (see **Appendix H** for a discussion of the salinity ratio) is highly correlated with distance from the Jupiter Inlet (expressed as river mile,  $r^2 = 0.9785$ ). **Table C-4** shows the relationship between the salinity ratio  $Ds/Db$  and a decline in number of individuals, DBH, canopy area, and tree height.

**Table C-4. Decline of Measured Freshwater Vegetation Parameters associated with ratio ( $Ds/Db$ ) of mean duration of a salinity event ( $Ds$ ) and mean time between salinity events ( $Db$ ) from the modeled long-term period of record**

	Abundance Index		No. of Adults Per Site <sup>4</sup>		Canopy Coverage (Adults)		Mean Height (Adults)		Mean DBH (Adults)		No. of Juveniles Per Site <sup>4</sup>	
	Dec <sup>1</sup>	NP <sup>2</sup>	Dec	NP	Dec	<5%	Dec	NP	Dec	NP	Dec	NP
Bald Cypress	0.28	5.00 <sup>5</sup>	0.13	5.00 <sup>5</sup>	0.13	0.38	N/A <sup>3</sup>	5.00 <sup>5</sup>	N/A	5.00 <sup>5</sup>	0.13	0.52
V. Willow	0.13	0.13	0.13	0.28	N/A	N/A	N/A	0.28	N/A	N/A	0.13	0.28
Dahoon	0.13	0.52	0.13	0.33	N/A	N/A	0.13	0.33	0.13	0.33	0.13	0.28
Pop Ash	0.28	0.52	0.28	0.52	0.13	0.28	0.28	0.52	0.13	0.52	0.28	0.28
Pond Apple	1.26	1.26	0.28	1.22	0.13	0.60	0.28	1.22	0.28	0.60	0.28	0.28
Red Maple	0.13	0.75	0.28	0.28	0.13	0.28	0.28	0.28	0.13	0.28	0.13	0.13

<sup>1</sup>Dec= declined; where a consistent drop in the value was first noted (moving from upstream to downstream)

<sup>2</sup>NP= not present, where the value first reached 0 or where there were no individuals found (moving from upstream to downstream)

<sup>3</sup>N/A= not able to be determined from the data

<sup>4</sup>Based upon combined totals from both plots surveyed at a site

<sup>5</sup>indicates an estimated value

***Historical Vegetation along the Northwest Fork***

Historically, downstream segments of the Loxahatchee River were dominated by freshwater vegetation. A review of the 1855 General Land Office Township Plats & Field Survey Notes (GLO 1855) from the Loxahatchee River area (Township 40 S, Range 42 E) indicate that mangroves were only present near the confluence of the North, Northwest, and Southwest Forks of the River near the Jupiter Inlet. Upstream areas of the riverine swamp are described as containing bald cypress, cabbage palms, wax myrtle, pop ash, and bay. A USGS Quadrangle/Topographic Map of the Jupiter Area (see 1950 USGS Topo map of the Rood Quadrangle for Florida) indicates that by the late 1940's, mangroves were present up to near the mouth of Kitching Creek. Currently (2002), red mangrove communities are found up to river mile 9.2, with scattered individuals found upstream to river mile 10 (see **Table C-3**). Interpretation of aerial photography flown over the River corridor approximately every decade since 1940 indicate a progressive invasion of red mangrove upstream of Kitching Creek along with accompanying loss of freshwater swamp vegetation (see **Appendix B**).

Reasons cited for the decline of freshwater habitat along the NW Fork include dredging of the Intracoastal Waterway (early 1900's), dredging of downstream segments of the Loxahatchee River (1930's), permanent opening of the Jupiter Inlet (1947), lowering of the local freshwater table, and diversion of freshwater from the NW Fork (1950's). All of these projects had a potential to allow further upstream encroachment of salt water during the daily tidal cycles.

Review of 1979 aerial photography (**Appendix B**) indicates that freshwater swamp vegetation was present upstream of river mile 8.4 (vegetation site 8B, see **Figure C-1** for approximate location), however since then red mangrove have become established upstream from there. Because the simulated salinity time series represented the same period of time (since 1970) as the vegetation changes in the most upstream segments of the NW Fork (particularly from river mile 9.0 through 10.0), it can be useful in determining salinity concentrations that have led to the decline in freshwater vegetation noted in the past three decades.



***Current Freshwater Vegetation Trends along the NW Fork***

The vegetation survey data collected along the NW Fork documents a gradient of change from a cypress and hardwood dominated freshwater swamp community to a red mangrove swamp. These observed changes are highly correlated to the magnitude of exposure to salinity from tidal fluxes. The results from our soil survey (see **Appendix G**), which was of limited scope, suggest that soil salinity is not a good predictor of long-term salinity conditions and was not useful in defining salinity conditions that lead to a decline in freshwater vegetation associated with salinity exposure. However, chlorida concentrations may be a better and more sensitive indicator. More frequent and more extensive long-term soil salinity monitoring may provide data needed to determine spatial and temporal changes, and the extent of salinity concentrations that may affect the ecological community at a site. We have also considered other factors as possible explanations for the distribution of species found along the NW Fork and for the decline of freshwater swamp species. These include fire frequency, excessive flooding, and drought. A review of the literature relative to bald cypress (see below) and our studies of long-term changes in the basin indicate that none of these factors can account for the overall pattern of vegetation change observed the past half-century.

Fire frequency in river floodplains is generally low, primarily because the soils are saturated most of the year, which retards the spread of fire. Furthermore, dry fuel in the floodplain swamp is sparse, and rapid decomposition rates and frequent flood events tend to clear away fuel. Bald cypress forests thrive in both fire free habitats and in occasionally burned areas (see Gunderson 1984, Ewel 1990). Bald cypress have been found to recolonize after fire, if a local seed source is available (Gunderson 1984).

Excessive prolonged flooding of the floodplain along the NW Fork is unlikely, especially since water tables have been reduced and hydroperiods shortened over the past century. In spite of this, flooding may be more frequent along downstream segments where tidal action is a dominant hydrological force. Bald cypress have been found to grow naturally in flooded swamps and lakes 90-100 m from the shoreline, some in water 1-3 m or more deep and at time of floods, the depth may be greater for short intervals (Brown 1984, Lugo & Brown 1984). Conversely, bald cypress are successfully grown in

moist soils as well as in much drier upland landscape situations where flooding never or rarely occurs. Drought would induce short-term restrictions on growth of bald cypress, but would not explain the pattern of loss we have observed along the River. If either of these factors (prolonged flooding or drought) were a primary influencing factor of loss of bald cypress along the NW Fork, it would be expected to cause widespread loss across the landscape, rather than only along a front that is closely associated with distance from the inlet.

### ***Salinity Toxicity and Thresholds***

Although we have shown strong and predictable relationships between long-term salinity event duration, frequency, and magnitude, and species composition of a site, we have not addressed short-term effects of salinity exposure. Furthermore, long-lived species, such as trees and other woody vegetation, can exhibit two types of stress from exposure to a toxic substance. They are *acute stress*, associated with short-duration high-concentration exposures, and *chronic stress*, associated with long-duration low-level concentration exposure (see Brown & Montz 1986; Pezeshki et al. 1986, 1987, 1990, 1995; Conner & Askew 1992; Javanshir & Ewel 1993; Allen 1994; Allen et al. 1994, 1997; Yanosky et al. 1995). Acute stress is generally visible at the time of or relatively soon after exposure to the toxin. Chronic stress may not be expressed for years after the initiation of long-term exposure. Salinity is known to be toxic to freshwater vegetation, however the concentrations and exposure duration that lead to either acute or chronic stress in a particular species are not well documented. Furthermore, different species can exhibit different tolerances to salinity, as indicated in **Tables C-2, C-3, and C-4**. In this study, we provided data that identifies long-term salinity conditions that are associated with the more recent changes in vegetation seen in the upstream portions of the NW Fork in order to begin to understand the effects of chronic low-level exposure.

The concept of a “threshold value” is often used to indicate a cutoff between a concentration of exposure above which damage (acute effect) or stress (chronic effect) will occur. In the analysis of water quality data (**Appendix H**), we have viewed salinity in terms of a salinity event defined at threshold value. It is important to remember that the simulated salinity value from the hydrodynamic model (see **Appendix E** for methods)

is based upon a daily average of the water column salinity at a point along the River. Salinity within the river channel at a site is not homogeneous, but rather is stratified so that when the “average” salinity is 1 ppt, river bottom salinity may be 2-3 ppt, while river surface salinity may be near 0. Model output will read as 1 ppt average salinity for that location, so selection of a 1 ppt threshold will encompass the range of salinity from freshwater at the surface to more saline water that can cause potential impacts to freshwater organisms (2-3 ppt) at the river bottom.

Two community-level mechanisms that contribute to the degradation of forest composition include mortality of existing adults (causing a reduction of canopy structure) and reduction or loss of recruitment of new adults to replace those lost by natural processes. Elevated salt concentrations in soils and surface water can stress or kill adult trees, reduce production of viable seeds, or kill germinating seedlings (see Pezeshki et al. 1986, 1987, 1990, 1995; Conner & Askew 1992; Allen 1994; Allen et al. 1994, 1997). When mature trees in an area are no longer capable of producing a sufficient number of viable seeds or seedling mortality is high because of high salinity conditions, recruitment of new trees to replace dead adults cannot occur. Although some mature trees may be able to survive (perhaps in a stressed state), the forest structure begins to degrade through time as adults begin to die off with no replacement by saplings. This mechanism is important to consider, especially along the upstream segments of the NW Fork where increases in salinity have most recently occurred. In these areas, the mature forest vegetation may still retain some characteristics of a “healthy” community, but if replacement of mature trees does not occur, the forest will die out over time. For this reason, examination of seedling and saplings at sites is a critical indicator of the sustainability of the freshwater floodplain community.

Maintenance of the freshwater swamp forest is ecologically important for many reasons. Cypress swamps have been found to provide habitat to a great diversity of invertebrates (see Brightman 1984, McMahan & Davis 1984). McMahan & Davis (1984) found that microarthropod diversity in cypress swamps is large when compared with that of most other ecosystems. Harris & Vickers (1984) studied vertebrate faunal communities in cypress domes and found that reptile and amphibian species dominate the cypress fauna during the summer and the winter vertebrate fauna is dominated by birds

(year-round residents plus large numbers of northern migrants). They conclude that both the abundance of broad-leaved evergreen plants (e.g. dahoon, red bay) that bear fruit and the swamp's ability to support active arthropod populations throughout the winter are the probable explanations for this high abundance of birds. In addition, they note that mammals use cypress swamps for refuge sites and many wading birds use them as rookery and roosting sites. Other vertebrates that inhabit cypress swamps include salamanders, frogs, toads, turtles, anoles, glass lizards, skinks, snakes, opossum, shrew, raccoon, river otters, red wolf, bobcat, squirrels, deer, rabbits, rats and mice. Birds found in cypress swamps include kestrel, herons, ibis, yellow-billed cuckoo, owls, woodpeckers, flycatchers, blue jay, wrens, catbirds, gnatcatchers, vireos, warblers, cardinal, and sparrows (Harris & Vickers 1984).

A primary aspect of forest structure that is known to play an important role in local ecology is the canopy. Bald cypress' tendency to dominate wetland forests is largely due to their ability to form a high closed canopy, which is particularly evident during the growing season. The canopy can support a large array of air plants, bromeliads, and orchids, many of which are federally threatened or endangered species (FDEP & SFWMD 2000) and also plays a critical role in the life cycles of many birds, reptiles, and insects. In all closed forests in general and freshwater swamps in particular, the canopy regulates light reaching the forest floor below, which has important ecological consequences. A fully developed forest canopy blocks most light from reaching the forest floor (see Sklar 1983, Conner et al. 1986), which suppresses seed germination (photodormancy), reduces growth of seedlings and saplings (photomorphogenic effects and reduction in photosynthesis), and exerts very significant competitive pressure against shade-intolerant species (Salisbury & Ross 1992). The canopy also regulates the microclimate of the forest, controlling humidity, light quality, rainfall distribution and other physical parameters that can have profound influences on plant growth. A listing of species found on the forest floor of cypress swamps reveals an array of shade-tolerant herbs, ferns, shrubs, and few swamp hardwoods (see Duever et al. 1984, Ewel 1990, Mitch & Gosselink 2000, Roberts & Woodbury *in review*). Shade-intolerant species generally persist only in areas of the forest that have a gap in the canopy (e.g. from a tree fall) or along an ecotone (such as along a riverbank where the canopy edge is found).

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**Field Data from the Vegetation Surveys along the NW Fork of the Loxahatchee River and Kitching Creek****Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-1**

(river mile 10.6, surveyed 1/15/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Acer rubrum	Red maple	1.3	11	24	1				west
Acer rubrum	Red maple	1.3	23		1				west
Acer rubrum	Red maple	1.9	19			1			west
Acer rubrum	Red maple						2		west
Acer rubrum	Red maple	1.6		16	1				west
Acer rubrum	Red maple						12		west
Acer rubrum	Red maple	2.5		24	1				west
Acer rubrum	Red maple	1.3		24	1				west
Acer rubrum	Red maple						24		west
Acer rubrum	Red maple	3.8	19	24				1	west
Acer rubrum	Red maple	1.3	8	16	1				west
Acer rubrum	Red maple	1.6	8	20	1				west
Acer rubrum	Red maple	1.3	8	16	1				west
Acer rubrum	Red maple	1.3	8	16	1				west
Annona glabra	Pond apple		60	0.5				1	west
Annona glabra	Pond apple	1.0		18	1				west
Annona glabra	Pond apple	0.2	19	10				1	west
Annona glabra	Pond apple	3.8		16	1				west
Annona glabra	Pond apple	2.5	32	10	1				west
Annona glabra	Pond apple	1.9	32	20	1				west
Annona glabra	Pond apple	2.2	32	8	1				west
Annona glabra	Pond apple	2.9	32	16	1				west
Annona glabra	Pond apple	0.3	13	12	1				west
Fraxinus caroliniana	Pop ash	2.5	40			1			west
Fraxinus caroliniana	Pop ash						9		west
Fraxinus caroliniana	Pop ash	0.3	19			1			west

**Quantitative Vegetation Survey of NW Fork Loxahatchee River: Site V-1 (continued)**

(river mile 10.6, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Fraxinus caroliniana	Pop ash	1.6	22	12				1	west
Fraxinus caroliniana	Pop ash						2		west
Fraxinus caroliniana	Pop ash	1.3	15	20	1				west
Fraxinus caroliniana	Pop ash	1.9	13	8				1	west
Fraxinus caroliniana	Pop ash	0.3	10	6	1				west
Fraxinus caroliniana	Pop ash	0.2	6	6	1				west
Fraxinus caroliniana	Pop ash	1.3	6	16	1				west
Fraxinus caroliniana	Pop ash	1.0	13	16	1				west
Fraxinus caroliniana	Pop ash	2.2		16	1				west
Fraxinus caroliniana	Pop ash	0.6	4	12	1				west
Fraxinus caroliniana	Pop ash	1.3	20	24				1	west
Fraxinus caroliniana	Pop ash	1.0	14	16				1	west
Fraxinus caroliniana	Pop ash	1.0	7	16	1				west
Fraxinus caroliniana	Pop ash	1.9	5	20	1				west
Fraxinus caroliniana	Pop ash	1.0	5	8	1				west
Fraxinus caroliniana	Pop ash	0.6	28	8	1				west
Fraxinus caroliniana	Pop ash	0.3	26	6	1				west
Fraxinus caroliniana	Pop ash	0.6		6	1				west
Fraxinus caroliniana	Pop ash	0.2	21	6	1				west
Fraxinus caroliniana	Pop ash	0.2	32	6	1				west
Fraxinus caroliniana	Pop ash	0.3	26	8	1				west
Fraxinus caroliniana	Pop ash	0.3		6	1				west
Fraxinus caroliniana	Pop ash	0.1				1			west
Fraxinus caroliniana	Pop ash	0.1	26	6		1			west
Fraxinus caroliniana	Pop ash	0.6	35	8	1				west
Fraxinus caroliniana	Pop ash	0.2		6	1				west
Itea virginica	Virginia willow		8		1				west
Itea virginica	Virginia willow		12		1				west
Itea virginica	Virginia willow						1		west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-1 (continued)**

(river mile 10.6, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow						8		west
Itea virginica	Virginia willow		24						west
Itea virginica	Virginia willow		15						west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow						2		west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow		42		1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow		36		1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow		19		1				west
Itea virginica	Virginia willow		32		1				west
Itea virginica	Virginia willow		23		1				west
Itea virginica	Virginia willow				3				west
Itea virginica	Virginia willow	0.0			1				west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow						13		west
Itea virginica	Virginia willow		16		1				west
Itea virginica	Virginia willow		12		1				west
Itea virginica	Virginia willow		11		1				west
Itea virginica	Virginia willow		35		1				west
Itea virginica	Virginia willow		45		1				west
Itea virginica	Virginia willow		11		1				west
Itea virginica	Virginia willow		10		1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow		15		1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-1 (continued)**

(river mile 10.6, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow		28		4				west
Itea virginica	Virginia willow		40		6				west
Persea borbonia	Red bay	0.1					1		west
Taxodium distichum	Bald cypress	5.1	3	24	1				west
Taxodium distichum	Bald cypress	1.3	3	22	1				west
Taxodium distichum	Bald cypress	1.3	27	16	1				west
Taxodium distichum	Bald cypress	2.5	40	20	1				west
Taxodium distichum	Bald cypress	0.3	24	8		1			west
Taxodium distichum	Bald cypress	3.8	30	32	1				west
Taxodium distichum	Bald cypress	1.6	16	16	1				west
Taxodium distichum	Bald cypress	7.6	22	36	1				west
Acer rubrum	Red maple	0.6	25	16	1				east
Acer rubrum	Red maple						6		east
Acer rubrum	Red maple	1.1		24	1				east
Acer rubrum	Red maple	0.6	60	18	1				east
Acer rubrum	Red maple	0.6	32	6				1	east
Acer rubrum	Red maple	1.6	18	20	1				east
Acer rubrum	Red maple	1.3	22	16	1				east
Acer rubrum	Red maple	1.3		24	1				east
Acer rubrum	Red maple	0.6	15	16	1				east
Acer rubrum	Red maple	1.9	35	20	1				east
Acer rubrum	Red maple	0.6	38	16	1				east
Acer rubrum	Red maple	0.3		8	1				east
Annona glabra	Pond apple	0.3	30	6	1				east
Annona glabra	Pond apple	2.2	18	10	1				east
Annona glabra	Pond apple	2.2	4	12				1	east
Annona glabra	Pond apple	1.6		20	1				east
Annona glabra	Pond apple						1		east
Annona glabra	Pond apple	3.2	55	16	1				east

**Quantitative Vegetation Survey of NW Fork Loxahatchee River: Site V-1 (continued)**

(river mile 10.6, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	2.5	26	12	1				east
Annona glabra	Pond apple	1.0	15	14	1				east
Annona glabra	Pond apple	1.0	30	12	1				east
Carya aquatica	Water hickory	0.6	45	28	1				east
Fraxinus caroliniana	Pop ash	0.2	28	6	1				east
Fraxinus caroliniana	Pop ash	3.8	28	16	1				east
Fraxinus caroliniana	Pop ash	0.6		6				1	east
Fraxinus caroliniana	Pop ash	0.6		4				1	east
Fraxinus caroliniana	Pop ash	0.6		4		1			east
Fraxinus caroliniana	Pop ash	0.6		8				1	east
Fraxinus caroliniana	Pop ash	0.3	38	8	1				east
Fraxinus caroliniana	Pop ash	0.3	36	4	1				east
Fraxinus caroliniana	Pop ash	1.3	15	8				1	east
Fraxinus caroliniana	Pop ash	0.2		6		1			east
Fraxinus caroliniana	Pop ash	1.3	12	24	1				east
Fraxinus caroliniana	Pop ash	0.5	27	6	1				east
Fraxinus caroliniana	Pop ash						2		east
Ilex cassine	Dahoon	0.6	50	16	1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow		40		1				east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow		18		1				east
Itea virginica	Virginia willow		18		1				east
Itea virginica	Virginia willow		18		1				east
Itea virginica	Virginia willow		18		1				east
Itea virginica	Virginia willow				7				east
Itea virginica	Virginia willow						6		east
Itea virginica	Virginia willow		12		4				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-1 (continued)**

(river mile 10.6, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow						3		east
Itea virginica	Virginia willow		23		4				east
Itea virginica	Virginia willow		23		6				east
Itea virginica	Virginia willow		17		5				east
Itea virginica	Virginia willow		25		5				east
Itea virginica	Virginia willow				7				east
Itea virginica	Virginia willow				6				east
Itea virginica	Virginia willow	0.3	12		1				east
Itea virginica	Virginia willow				6				east
Itea virginica	Virginia willow						4		east
Itea virginica	Virginia willow		25		3				east
Itea virginica	Virginia willow						8		east
Itea virginica	Virginia willow				3				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow		32		4				east
Itea virginica	Virginia willow		25		6				east
Itea virginica	Virginia willow		10		3				east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow						6		east
Itea virginica	Virginia willow		40		5				east
Itea virginica	Virginia willow						6		east
Itea virginica	Virginia willow		22		6				east
Persea borbonia	Red bay	0.2		8				1	east
Persea borbonia	Red bay	0.2		4				1	east
Persea borbonia	Red bay	0.2	36	4	1				east
Persea borbonia	Red bay	0.1				1			east
Sabal palmetto	Cabbage palm		55		1				east
Sabal palmetto	Cabbage palm				1				east
Sabal palmetto	Cabbage palm		20		1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-1 (continued)**

(river mile 10.6, surveyed 1/15/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Sabal palmetto	Cabbage palm		18		1				east
Sabal palmetto	Cabbage palm		25		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		18		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		7		1				east
Sabal palmetto	Cabbage palm		55		1				east
Sabal palmetto	Cabbage palm				1				east
Sabal palmetto	Cabbage palm		40		1				east
Sabal palmetto	Cabbage palm		38		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm				1				east
Sabal palmetto	Cabbage palm				1				east
Sabal palmetto	Cabbage palm		50		1				east
Sabal palmetto	Cabbage palm		28		1				east
Taxodium distichum	Bald cypress	4.8		24	1				east
Taxodium distichum	Bald cypress	2.5	12	24	1				east
Taxodium distichum	Bald cypress	1.9	45	20	1				east
Taxodium distichum	Bald cypress	3.2		32	1				east
Taxodium distichum	Bald cypress	1.3		16	1				east
Taxodium distichum	Bald cypress	3.8	30	20	1				east
Taxodium distichum	Bald cypress	1.3	12	8	1				east
Taxodium distichum	Bald cypress	3.8		32	1				east
Taxodium distichum	Bald cypress	7.6	32	40	1				east
Taxodium distichum	Bald cypress	2.2	17	10	1				east
Taxodium distichum	Bald cypress	4.5	33	28	1				east
Taxodium distichum	Bald cypress	3.2		20	1				east
Taxodium distichum	Bald cypress	3.8	35	20	1				east
Taxodium distichum	Bald cypress	3.2	15	36	1				east



**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Acer rubrum	Red maple	1.0	35	16	1				west
Acer rubrum	Red maple						1		west
Acer rubrum	Red maple	0.2	20	6		1			west
Acer rubrum	Red maple						3		west
Acer rubrum	Red maple	0.6	35	14	1				west
Acer rubrum	Red maple						7		west
Acer rubrum	Red maple						8		west
Acer rubrum	Red maple	0.3	18	6		1			west
Acer rubrum	Red maple	0.2	8	4		1			west
Acer rubrum	Red maple						17		west
Acer rubrum	Red maple	1.3	33	20	1				west
Acer rubrum	Red maple	0.2	8	2		1			west
Acer rubrum	Red maple	0.8	28	8	1				west
Annona glabra	Pond apple	0.2	13	6	1				west
Annona glabra	Pond apple	0.1	12	3	1				west
Annona glabra	Pond apple	1.3	14	6	1				west
Annona glabra	Pond apple	0.6	21	8	1				west
Annona glabra	Pond apple	1.0	25	8	1				west
Annona glabra	Pond apple	0.1	23						west
Annona glabra	Pond apple		8						west
Annona glabra	Pond apple	1.0		10	1				west
Annona glabra	Pond apple	0.6	23	16	1				west
Annona glabra	Pond apple	0.3	10	8	1				west
Annona glabra	Pond apple	0.3	8	4	1				west
Annona glabra	Pond apple						2		west
Annona glabra	Pond apple						1		west
Annona glabra	Pond apple						1		west
Annona glabra	Pond apple						1		west
Annona glabra	Pond apple	1.0	20	10	1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	0.8	14	6	1				west
Annona glabra	Pond apple	1.3	24	12	1				west
Annona glabra	Pond apple	1.3	25	16	1				west
Annona glabra	Pond apple	1.3	25	14	1				west
Annona glabra	Pond apple						1		west
Annona glabra	Pond apple	1.3	24	10	1				west
Annona glabra	Pond apple	1.3	33	12	1				west
Annona glabra	Pond apple	0.3	30	14	1				west
Annona glabra	Pond apple	1.0	25	8	1				west
Annona glabra	Pond apple	1.0	25	8	1				west
Annona glabra	Pond apple	0.6	25	10	1				west
Annona glabra	Pond apple	0.3	20	6	1				west
Annona glabra	Pond apple	0.6	15	16	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	0.5	11	8	1				west
Annona glabra	Pond apple	1.0	15	12	1				west
Annona glabra	Pond apple	1.3	15	20	1				west
Annona glabra	Pond apple	0.8	23					1	west
Fraxinus caroliniana	Pop ash	1.0	30	10	1				west
Fraxinus caroliniana	Pop ash						1		west
Fraxinus caroliniana	Pop ash	0.6	23	10	1				west
Fraxinus caroliniana	Pop ash	0.5	23	6	1				west
Fraxinus caroliniana	Pop ash	1.0	28	12	1				west
Fraxinus caroliniana	Pop ash	0.1	20	6	1				west
Fraxinus caroliniana	Pop ash	0.1	20	6	1				west
Fraxinus caroliniana	Pop ash	0.3	14	8	1				west
Fraxinus caroliniana	Pop ash	0.3	28	6	1				west
Fraxinus caroliniana	Pop ash	0.6	18	10	1				west
Fraxinus caroliniana	Pop ash	0.2	7	4		1			west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Fraxinus caroliniana	Pop ash	0.2	10	2		1			west
Fraxinus caroliniana	Pop ash	0.5	28	14	1				west
Fraxinus caroliniana	Pop ash	1.0	24	12	1				west
Fraxinus caroliniana	Pop ash	0.5	13	4	1				west
Fraxinus caroliniana	Pop ash	0.2	10	4	1				west
Ilex cassine	Dahoon		10	4		1			west
Ilex cassine	Dahoon	0.2	32	4	1				west
Ilex cassine	Dahoon	0.2	32	6	1				west
Ilex cassine	Dahoon	0.2	33	4	1				west
Ilex cassine	Dahoon	0.6	21	8				1	west
Ilex cassine	Dahoon	0.2	11	4		1			west
Ilex cassine	Dahoon	0.3	12	6	1				west
Ilex cassine	Dahoon	0.2	6	6		1			west
Ilex cassine	Dahoon	0.3	22	6		1			west
Ilex cassine	Dahoon	0.3	25	4	1				west
Ilex cassine	Dahoon	0.3	18	4	1				west
Ilex cassine	Dahoon	0.1	5.5	2		1			west
Ilex cassine	Dahoon	0.2	18	6	1				west
Ilex cassine	Dahoon	0.1	9	2		1			west
Ilex cassine	Dahoon	0.3	13	8	1				west
Ilex cassine	Dahoon	0.5	18	6					west
Ilex cassine	Dahoon	0.6	13	8	1				west
Ilex cassine	Dahoon	0.1	8	4		1			west
Ilex cassine	Dahoon	0.3	20	12	1				west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				2				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow				2				west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow						2		west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow				3				west
Persea borbonia	Red bay	0.2	17	4		1			west
Persea borbonia	Red bay	0.3	28	8	1				west
Persea borbonia	Red bay						1		west
Persea borbonia	Red bay						2		west
Persea borbonia	Red bay						5		west
Persea borbonia	Red bay	0.1	12	4		1			west
Persea borbonia	Red bay	0.3	28	8	1				west
Persea borbonia	Red bay	0.2	26	6		1			west
Persea borbonia	Red bay	0.3	16	4	1				west
Persea borbonia	Red bay						1		west
Persea borbonia	Red bay						2		west
Quercus laurifolia	Laurel oak						1		west
Sabal palmetto	Cabbage palm		28		1				west
Sabal palmetto	Cabbage palm		35		1				west
Sabal palmetto	Cabbage palm		28		1				west
Sabal palmetto	Cabbage palm		50		1				west
Sabal palmetto	Cabbage palm		45		1				west
Sabal palmetto	Cabbage palm		32		1				west
Sabal palmetto	Cabbage palm		45		1				west
Sabal palmetto	Cabbage palm		45		1				west
Sabal palmetto	Cabbage palm		17		1				west
Sabal palmetto	Cabbage palm		17		1				west
Sabal palmetto	Cabbage palm		45		1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Sabal palmetto	Cabbage palm		45		1				west
Sabal palmetto	Cabbage palm		45		1				west
Sabal palmetto	Cabbage palm		32		1				west
Sabal palmetto	Cabbage palm		35		1				west
Taxodium distichum	Bald cypress	1.0	38	16	1				west
Taxodium distichum	Bald cypress	1.0	45	24	1				west
Taxodium distichum	Bald cypress	3.2	55	32	1				west
Taxodium distichum	Bald cypress	0.2	10	12		1			west
Taxodium distichum	Bald cypress	0.2	18	14		1			west
Taxodium distichum	Bald cypress						6		west
Taxodium distichum	Bald cypress	2.5	6	30	1				west
Taxodium distichum	Bald cypress	2.5	45	32	1				west
Taxodium distichum	Bald cypress						1		west
Taxodium distichum	Bald cypress	1.3	50	24	1				west
Taxodium distichum	Bald cypress	0.1	7	6		1			west
Taxodium distichum	Bald cypress	0.3	22	8	1				west
Taxodium distichum	Bald cypress	1.3	35	18	1				west
Taxodium distichum	Bald cypress	4.5	45	56	1				west
Acer rubrum	Red maple						2		east
Acer rubrum	Red maple	1.0	20	16	1				east
Acer rubrum	Red maple	0.3	33	10	1				east
Acer rubrum	Red maple	0.1	6	2		1			east
Acer rubrum	Red maple	1.0	18	22	1				east
Acer rubrum	Red maple	2.9	30	12	1				east
Acer rubrum	Red maple	0.3	23	6	1				east
Acer rubrum	Red maple	0.3	30	10	1				east
Acer rubrum	Red maple		10	10	1				east
Annona glabra	Pond apple	0.5	14	12	1				east
Annona glabra	Pond apple	1.0	22	10	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	1.0	21	10	1				east
Annona glabra	Pond apple	1.0	22	12	1				east
Annona glabra	Pond apple	0.3	22	14	1				east
Annona glabra	Pond apple						1		east
Annona glabra	Pond apple						3		east
Annona glabra	Pond apple	1.0	20	8	1				east
Annona glabra	Pond apple	0.5	23	8	1				east
Annona glabra	Pond apple	1.0	28	12	1				east
Annona glabra	Pond apple	0.3	22	6	1				east
Annona glabra	Pond apple	0.3	18	4	1				east
Annona glabra	Pond apple	1.0	15	12	1				east
Annona glabra	Pond apple	3.2	22	20	1				east
Annona glabra	Pond apple	1.0	20	18	1				east
Annona glabra	Pond apple	2.9	25	18	1				east
Annona glabra	Pond apple	3.2	24	14	1				east
Annona glabra	Pond apple	3.2	24	18	1				east
Annona glabra	Pond apple	2.9	38	18	1				east
Annona glabra	Pond apple	2.5	25	10	1				east
Annona glabra	Pond apple	0.5	13	12	1				east
Annona glabra	Pond apple	0.6	13	4	1				east
Annona glabra	Pond apple	1.0	24	12	1				east
Annona glabra	Pond apple	1.9	5	16	1				east
Annona glabra	Pond apple	0.6	14	6	1				east
Annona glabra	Pond apple	0.5	10	12	1				east
Fraxinus caroliniana	Pop ash	1.0	22	14	1				east
Fraxinus caroliniana	Pop ash	1.0	22	14	1				east
Fraxinus caroliniana	Pop ash	0.3	15	6		1			east
Fraxinus caroliniana	Pop ash	1.0	24	16	1				east
Fraxinus caroliniana	Pop ash	1.6	21	16	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Fraxinus caroliniana	Pop ash	0.6	25	14	1				east
Fraxinus caroliniana	Pop ash	0.6	20	6	1				east
Fraxinus caroliniana	Pop ash	0.1	7			1			east
Fraxinus caroliniana	Pop ash	1.0	13	8				1	east
Fraxinus caroliniana	Pop ash	0.8	13	8	1				east
Fraxinus caroliniana	Pop ash	0.8	15	12	1				east
Fraxinus caroliniana	Pop ash	0.1	10	4				1	east
Fraxinus caroliniana	Pop ash	0.8	18	6	1				east
Fraxinus caroliniana	Pop ash	0.1	18	4				1	east
Fraxinus caroliniana	Pop ash	0.6	15	6	1				east
Fraxinus caroliniana	Pop ash	0.6	16	8	1				east
Fraxinus caroliniana	Pop ash						1		east
Fraxinus caroliniana	Pop ash	0.2	22	6	1				east
Fraxinus caroliniana	Pop ash	0.2	15	10	1				east
Fraxinus caroliniana	Pop ash	0.2	22	4	1				east
Fraxinus caroliniana	Pop ash	0.3	25	10	1				east
Fraxinus caroliniana	Pop ash	0.6	30	8	1				east
Fraxinus caroliniana	Pop ash	0.3	18	6	1				east
Fraxinus caroliniana	Pop ash	0.2	10	6	1				east
Fraxinus caroliniana	Pop ash	0.2	18	8		1			east
Fraxinus caroliniana	Pop ash	0.3	24	6	1				east
Fraxinus caroliniana	Pop ash						1		east
Fraxinus caroliniana	Red bay	0.3	15	6	1				east
Ilex cassine	Dahoon	0.3	13	6	1				east
Ilex cassine	Dahoon	0.1	15	6	1				east
Itea virginica	Virginia willow						2		east
Itea virginica	Virginia willow						2		east
Itea virginica	Virginia willow				2				east
Itea virginica	Virginia willow						1		east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				3				east
Itea virginica	Virginia willow				3				east
Itea virginica	Virginia willow				3				east
Itea virginica	Virginia willow						2		east
Itea virginica	Virginia willow				2				east
Itea virginica	Virginia willow						3		east
Itea virginica	Virginia willow				2				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow						2		east
Itea virginica	Virginia willow				2				east
Itea virginica	Virginia willow				4				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				3				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow						2		east
Itea virginica	Virginia willow				3				east
Itea virginica	Virginia willow				1				east
Rhizophora mangle	Red mangrove		12	14	1				east
Sabal palmetto	Cabbage palm		30		1				east
Sabal palmetto	Cabbage palm		10		1				east
Sabal palmetto	Cabbage palm		25		1				east
Sabal palmetto	Cabbage palm		45						east
Sabal palmetto	Cabbage palm		30		1				east
Sabal palmetto	Cabbage palm		25		1				east
Sabal palmetto	Cabbage palm		15		1				east



**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Sabal palmetto	Cabbage palm		20		1				east
Sabal palmetto	Cabbage palm		21		1				east
Sabal palmetto	Cabbage palm		20		2				east
Sabal palmetto	Cabbage palm		42		1				east
Sabal palmetto	Cabbage palm		35		1				east
Sabal palmetto	Cabbage palm		18		1				east
Sabal palmetto	Cabbage palm		19		1				east
Sabal palmetto	Cabbage palm		6			1			east
Taxodium distichum	Bald cypress	1.6	38	32	1				east
Taxodium distichum	Bald cypress	0.6	21	18	1				east
Taxodium distichum	Bald cypress	1.9	45	22	1				east
Taxodium distichum	Bald cypress	1.3	30	22	1				east
Taxodium distichum	Bald cypress	1.0	28	20	1				east
Taxodium distichum	Bald cypress	1.3	45	32	1				east
Taxodium distichum	Bald cypress	0.1	13	8		1			east
Taxodium distichum	Bald cypress	0.2	13	8		1			east
Taxodium distichum	Bald cypress	0.2	14	12		1			east
Taxodium distichum	Bald cypress	0.1	11	4		1			east
Taxodium distichum	Bald cypress	0.2	14	10		1			east
Taxodium distichum	Bald cypress	0.1	7	6		1			east
Taxodium distichum	Bald cypress	0.3	18	12	1				east
Taxodium distichum	Bald cypress	0.4	21	10	1				east
Taxodium distichum	Bald cypress	0.5	30	16	1				east
Taxodium distichum	Bald cypress	0.5	28	16	1				east
Taxodium distichum	Bald cypress	0.2	18	8		1			east
Taxodium distichum	Bald cypress	0.1	12	4		1			east
Taxodium distichum	Bald cypress	0.3	20	16	1				east
Taxodium distichum	Bald cypress	0.6	29	20	1				east
Taxodium distichum	Bald cypress	0.6	40	14	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 10-B (continued)**

(lat -80.164987106/lon 26.978938944; river mile 10.2, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Taxodium distichum	Bald cypress	2.9	50	40	1				east
Taxodium distichum	Bald cypress	0.5	18	12	1				east
Taxodium distichum	Bald cypress	0.2	15	6		1			east
Taxodium distichum	Bald cypress	0.6	22	12	1				east
Taxodium distichum	Bald cypress	0.5	20	10	1				east
Taxodium distichum	Bald cypress	0.3	23	12	1				east
Taxodium distichum	Bald cypress	0.2	20	6		1			east
Taxodium distichum	Bald cypress	0.5	21	10	1				east
Taxodium distichum	Bald cypress	0.1	10	6		1			east
Taxodium distichum	Bald cypress	0.6	26	14	1				east
Taxodium distichum	Bald cypress	0.2	22	8		1			east
Taxodium distichum	Bald cypress	0.1	9	6	1				east
Taxodium distichum	Bald cypress	0.1	12	6		1			east
Taxodium distichum	Bald cypress	0.2	14	6		1			east
Taxodium distichum	Bald cypress	0.1	8	4		1			east
Taxodium distichum	Bald cypress	0.2	22	8	1				east
Taxodium distichum	Bald cypress	0.1	9	4		1			east
Taxodium distichum	Bald cypress	0.1	7	4		1			east
Taxodium distichum	Bald cypress	0.5	30	10	1				east
Taxodium distichum	Bald cypress	0.2	18	6		1			east
Taxodium distichum	Bald cypress	0.2	15	4		1			east
Taxodium distichum	Bald cypress	0.5	25	10	1				east
Taxodium distichum	Bald cypress	0.2	13	8		1			east
Taxodium distichum	Bald cypress	0.1	8	8		1			east
Taxodium distichum	Bald cypress	1.9	35	18	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-3**

(river mile 9.9, surveyed 1/16/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Annona glabra	Pond apple	1.9	15	16	1				west
Annona glabra	Pond apple	1.3	15	14	1				west
Annona glabra	Pond apple	1.0	15	12	1				west
Annona glabra	Pond apple	1.0	15	12	1				west
Annona glabra	Pond apple	1.0	15	16	1				west
Annona glabra	Pond apple	0.1	13	16	1				west
Annona glabra	Pond apple	1.6	14	8	1				west
Annona glabra	Pond apple	0.6	15	8	1				west
Annona glabra	Pond apple	1.3	15	8	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	0.6	15	6	1				west
Annona glabra	Pond apple	1.0	15	12	1				west
Annona glabra	Pond apple	0.6	15	6	1				west
Annona glabra	Pond apple	0.8	15	8	1				west
Annona glabra	Pond apple	0.8	15	8	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	0.6	15	6	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	0.8	15	6	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	0.5	15	4	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	1.9	15	8	1				west
Annona glabra	Pond apple	1.0	15	5	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	1.3	15	10	1				west
Annona glabra	Pond apple	0.8	15	4	1				west
Annona glabra	Pond apple	1.0	15	8	1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-3 (continued)**

(river mile 9.9, surveyed 1/16/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Annona glabra	Pond apple	1.3	15	6	1				west
Annona glabra	Pond apple	2.2	12	8	1				west
Annona glabra	Pond apple	0.5	13	6	1				west
Annona glabra	Pond apple	1.0	15	12	1				west
Annona glabra	Pond apple	1.0	15	8	1				west
Annona glabra	Pond apple	0.8	15	8	1				west
Annona glabra	Pond apple	0.8	15	4	1				west
Annona glabra	Pond apple	1.6	15	10	1				west
Annona glabra	Pond apple	1.4	15	8	1				west
Annona glabra	Pond apple	1.8	15	12	1				west
Annona glabra	Pond apple	1.0	15	12	1				west
Annona glabra	Pond apple	0.6		8	1				west
Annona glabra	Pond apple	1.0	15	8	1				west
Annona glabra	Pond apple	0.8	15	6	1				west
Annona glabra	Pond apple	2.5	15	10	1				west
Annona glabra	Pond apple	1.9	15	12	1				west
Annona glabra	Pond apple	1.3	15	10	1				west
Annona glabra	Pond apple	1.3		12	1				west
Annona glabra	Pond apple	1.0	15	8	1				west
Annona glabra	Pond apple	0.5	15	6	1				west
Annona glabra	Pond apple	0.5	15	6	1				west
Annona glabra	Pond apple	2.2	15	14	1				west
Annona glabra	Pond apple	1.3	15	8	1				west
Annona glabra	Pond apple	0.2	15	4	1				west
Annona glabra	Pond apple	1.0	14	10	1				west
Annona glabra	Pond apple	0.1	14	8	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	1.0		8	1				west
Annona glabra	Pond apple	0.5	14	8	1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-3 (continued)**

(river mile 9.9, surveyed 1/16/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	0.3	10	6	1				west
Annona glabra	Pond apple	0.6	15	12	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	0.3	14	2	1				west
Annona glabra	Pond apple	1.0	15	8	1				west
Annona glabra	Pond apple	0.3		8	1				west
Annona glabra	Pond apple	1.3	15	14	1				west
Annona glabra	Pond apple	1.4	15	14	1				west
Annona glabra	Pond apple	0.6	12	14	1				west
Annona glabra	Pond apple	1.3	15	14	1				west
Annona glabra	Pond apple	0.6	15	10	1				west
Annona glabra	Pond apple	0.3	15	4	1				west
Annona glabra	Pond apple	1.3	15	10	1				west
Annona glabra	Pond apple	1.3	15	10	1				west
Annona glabra	Pond apple	1.3	15	16	1				west
Annona glabra	Pond apple	0.5	15	12	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	1.6	15	14	1				west
Fraxinus caroliniana	Pop ash	0.5	12	20	1				west
Fraxinus caroliniana	Pop ash	0.6	15	14	1				west
Fraxinus caroliniana	Pop ash	0.5	8	4				1	west
Fraxinus caroliniana	Pop ash	0.6	14			1			west
Fraxinus caroliniana	Pop ash	0.1	13		1				west
Fraxinus caroliniana	Pop ash	0.1	13		1				west
Fraxinus caroliniana	Pop ash	0.1	13		1				west
Fraxinus caroliniana	Pop ash	0.1	8		1				west
Fraxinus caroliniana	Pop ash	0.5	15	6	1				west
Fraxinus caroliniana	Pop ash	0.1	10	2		1			west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-3 (continued)**

(river mile 9.9, surveyed 1/16/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Fraxinus caroliniana	Pop ash	0.3	13	4	1				west
Fraxinus caroliniana	Pop ash	1.3	15	16	1				west
Fraxinus caroliniana	Pop ash	0.2	15	6	1				west
Fraxinus caroliniana	Pop ash	0.6	16	8	1				west
Ilex cassine	Dahoon	0.2	13			1			west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Rhizophora mangle	Red mangrove	0.1	11	4	1				west
Rhizophora mangle	Red mangrove		14	10	1				west
Rhizophora mangle	Red mangrove		15	14	1				west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove		15	10	1				west
Rhizophora mangle	Red mangrove		15	12	1				west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove		15	4	1				west
Rhizophora mangle	Red mangrove		15	4	1				west
Rhizophora mangle	Red mangrove		6			1			west
Rhizophora mangle	Red mangrove		10			1			west
Rhizophora mangle	Red mangrove		10			1			west
Rhizophora mangle	Red mangrove		9			1			west
Rhizophora mangle	Red mangrove		15		1				west
Rhizophora mangle	Red mangrove		15	14	1				west
Rhizophora mangle	Red mangrove		15	14	1				west
Rhizophora mangle	Red mangrove		15	14	1				west
Rhizophora mangle	Red mangrove		15	14	1				west
Rhizophora mangle	Red mangrove		15	14	1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-3 (continued)**

(river mile 9.9, surveyed 1/16/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Rhizophora mangle	Red mangrove		10			1			west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove						1		west
Rhizophora mangle	Red mangrove		14	10	1				west
Rhizophora mangle	Red mangrove		17	14	1				west
Rhizophora mangle	Red mangrove		15	8	1				west
Rhizophora mangle	Red mangrove		16	8	1				west
Rhizophora mangle	Red mangrove		15	16	1				west
Rhizophora mangle	Red mangrove						4		west
Rhizophora mangle	Red mangrove						10		west
Rhizophora mangle	Red mangrove			6	1				west
Rhizophora mangle	Red mangrove		15	10	1				west
Rhizophora mangle	Red mangrove		15	12	1				west
Rhizophora mangle	Red mangrove		15	16	1				west
Rhizophora mangle	Red mangrove		15	8	1				west
Rhizophora mangle	Red mangrove		14	14	1				west
Rhizophora mangle	Red mangrove		14	14	1				west
Rhizophora mangle	Red mangrove		14	12	1				west
Rhizophora mangle	Red mangrove		13	12	1				west
Rhizophora mangle	Red mangrove		11	8	1				west
Rhizophora mangle	Red mangrove		15	14	1				west
Rhizophora mangle	Red mangrove		15	8	1				west
Rhizophora mangle	Red mangrove		15	12	1				west
Rhizophora mangle	Red mangrove		15	10	1				west
Rhizophora mangle	Red mangrove		15	8	1				west
Rhizophora mangle	Red mangrove		15	8	1				west
Rhizophora mangle	Red mangrove		10	4		1			west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site V-3 (continued)**

(river mile 9.9, surveyed 1/16/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Rhizophora mangle	Red mangrove		10	4		1			west
Rhizophora mangle	Red mangrove		12	8	1				west
Rhizophora mangle	Red mangrove		10	8	1				west
Rhizophora mangle	Red mangrove		15	12	1				west
Sabal palmetto	Cabbage palm		12		1				west
Taxodium distichum	Bald cypress	0.6	30	24	1				west
Taxodium distichum	Bald cypress	1.6	35	28	1				west
Taxodium distichum	Bald cypress	3.5	45	40	1				west



**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Acer rubrum	Red maple	0.3	20	8	1				west
Acer rubrum	Red maple	0.1	15	2	1				west
Acer rubrum	Red maple	0.2	17	12	1				west
Acer rubrum	Red maple	0.3	22	4	1				west
Acer rubrum	Red maple	0.3	18	4	1				west
Acer rubrum	Red maple	0.5	42	12	1				west
Acer rubrum	Red maple	0.5	32	12	1				west
Acer rubrum	Red maple	0.6	22	12	1				west
Acer rubrum	Red maple	0.8	33	14	1				west
Annona glabra	Pond apple	0.3	17	6	1				west
Annona glabra	Pond apple	0.3	15	12	1				west
Annona glabra	Pond apple	0.1	16	4	1				west
Annona glabra	Pond apple	0.3	14	6	1				west
Annona glabra	Pond apple	0.3	14	6	1				west
Annona glabra	Pond apple	0.3	13	6	1				west
Annona glabra	Pond apple						1		west
Annona glabra	Pond apple	0.3	14	6				1	west
Annona glabra	Pond apple	0.6	15	6	1				west
Annona glabra	Pond apple	1.0	15	8	1				west
Annona glabra	Pond apple	0.6	18	8	1				west
Annona glabra	Pond apple	0.6	18	8	1				west
Annona glabra	Pond apple	0.6	18	8	1				west
Annona glabra	Pond apple	0.6	18	8	1				west
Annona glabra	Pond apple	0.6	18	14	1				west
Annona glabra	Pond apple	0.3	12	4	1				west
Annona glabra	Pond apple	0.6	18	8	1				west
Annona glabra	Pond apple	0.6	12	12	1				west
Annona glabra	Pond apple	0.6	16	12	1				west
Annona glabra	Pond apple	1.0	12	12	1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	0.6	14	12	1				west
Annona glabra	Pond apple	0.6	14	14	1				west
Annona glabra	Pond apple	0.6	15	16	1				west
Annona glabra	Pond apple	0.6	15	8	1				west
Annona glabra	Pond apple	0.6	18	12	1				west
Annona glabra	Pond apple	0.6	18	4	1				west
Annona glabra	Pond apple	1.0	18	12	1				west
Annona glabra	Pond apple	0.6	15	12	1				west
Annona glabra	Pond apple	0.3	14	8	1				west
Annona glabra	Pond apple	0.3	15	8	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	0.3	18	6	1				west
Annona glabra	Pond apple	0.3	14	4	1				west
Annona glabra	Pond apple	0.5	15	12	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Annona glabra	Pond apple	0.3	15	6	1				west
Fraxinus caroliniana	Pop ash	0.2	17	4	1				west
Fraxinus caroliniana	Pop ash	0.3	12	4	1				west
Fraxinus caroliniana	Pop ash	0.3	7	4	1				west
Fraxinus caroliniana	Pop ash	0.2	10	4	1				west
Fraxinus caroliniana	Pop ash	0.1	6	2		1			west
Fraxinus caroliniana	Pop ash	0.1	16	4		1			west
Fraxinus caroliniana	Pop ash	0.1	14	2	1				west
Fraxinus caroliniana	Pop ash	0.2	12	2	1				west
Fraxinus caroliniana	Pop ash	0.2	12	2	1				west
Fraxinus caroliniana	Pop ash	0.3	13	6	1				west
Fraxinus caroliniana	Pop ash	0.3	20	8	1				west
Fraxinus caroliniana	Pop ash	0.3	18	6	1				west
Fraxinus caroliniana	Pop ash	0.5	15	8	1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Fraxinus caroliniana	Pop ash	0.3	13	6	1				west
Fraxinus caroliniana	Pop ash	0.2	13	4	1				west
Fraxinus caroliniana	Pop ash	0.2	9	4	1				west
Fraxinus caroliniana	Pop ash	0.3	14	8	1				west
Fraxinus caroliniana	Pop ash	0.1	7	2	1				west
Fraxinus caroliniana	Pop ash	0.1	13	2	1				west
Fraxinus caroliniana	Pop ash	0.5	12	8	1				west
Fraxinus caroliniana	Pop ash	0.2	12	8	1				west
Ilex cassine	Dahoon	0.2	23	4	1				west
Ilex cassine	Dahoon	0.1	10	4		1			west
Ilex cassine	Dahoon	0.0	4	2	1				west
Ilex cassine	Dahoon	0.1	16	6	1				west
Ilex cassine	Dahoon	0.3	13	8	1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow						1		west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow						1		west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow				1				west
Persea borbonia	Red bay	0.1	5	2	1	1			west
Persea borbonia	Red bay	0.0	6	2		1			west
Persea borbonia	Red bay	0.0	7	2		1			west
Persea borbonia	Red bay	0.0	7	2		1			west
Persea borbonia	Red bay	0.1	11	4	1				west
Persea borbonia	Red bay						1		west
Persea borbonia	Red bay	0.1	12	2	1				west
Rhizophora mangle	Red mangrove		10	8	1				west
Sabal palmetto	Cabbage palm		18		1				west
Sabal palmetto	Cabbage palm		13		1				west
Sabal palmetto	Cabbage palm		30		1				west
Sabal palmetto	Cabbage palm		15		1				west
Sabal palmetto	Cabbage palm		8		1				west
Sabal palmetto	Cabbage palm		9		1				west
Sabal palmetto	Cabbage palm		22		1				west
Sabal palmetto	Cabbage palm		20		1				west
Sabal palmetto	Cabbage palm		30		1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Sabal palmetto	Cabbage palm		25		1				west
Sabal palmetto	Cabbage palm		10		1				west
Sabal palmetto	Cabbage palm		21		1				west
Sabal palmetto	Cabbage palm		40		1				west
Taxodium distichum	Bald cypress	1.9	55	24	1				west
Taxodium distichum	Bald cypress	1.0	55	20	1				west
Taxodium distichum	Bald cypress	1.3	50	20	1				west
Taxodium distichum	Bald cypress	0.6	45	14	1				west
Taxodium distichum	Bald cypress	1.0	55	20	1				west
Taxodium distichum	Bald cypress	1.3	55	24	1				west
Taxodium distichum	Bald cypress	1.3	45	24	1				west
Taxodium distichum	Bald cypress	0.3	30	12	1				west
Taxodium distichum	Bald cypress	0.1	30	24	1				west
Taxodium distichum	Bald cypress	1.0	45	20	1				west
Taxodium distichum	Bald cypress	0.8	30	16	1				west
Taxodium distichum	Bald cypress	1.3	35	22	1				west
Taxodium distichum	Bald cypress	1.3	38	20	1				west
Taxodium distichum	Bald cypress	1.9	40	24	1				west
Taxodium distichum	Bald cypress	1.0	25	20	1				west
Acer rubrum	Red maple	0.1	15	12	1				east
Annona glabra	Pond apple	0.2	18	8	1				east
Annona glabra	Pond apple	0.1	7	3		1			east
Annona glabra	Pond apple	0.2	30	6	1				east
Annona glabra	Pond apple						1		east
Annona glabra	Pond apple						1		east
Annona glabra	Pond apple	0.1	6	2	1				east
Annona glabra	Pond apple	0.1	11	2	1				east
Annona glabra	Pond apple	0.1	12	6	1				east
Annona glabra	Pond apple	0.1	23	8	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Fraxinus caroliniana	Pop ash	0.6	20	12	1				east
Fraxinus caroliniana	Pop ash	0.2	20	6	1				east
Fraxinus caroliniana	Pop ash	0.1	15	5	1				east
Fraxinus caroliniana	Pop ash	0.3	18	8	1				east
Fraxinus caroliniana	Pop ash	0.1	15	2	1				east
Fraxinus caroliniana	Pop ash	0.1	13	4	1				east
Fraxinus caroliniana	Pop ash	0.1	6	2				1	east
Fraxinus caroliniana	Pop ash	0.2	10	4				1	east
Fraxinus caroliniana	Pop ash	0.2	6	2				1	east
Fraxinus caroliniana	Pop ash	0.3	13	6	1				east
Fraxinus caroliniana	Pop ash	0.1	5	4	1				east
Fraxinus caroliniana	Pop ash	0.3	19	12	1				east
Fraxinus caroliniana	Pop ash	0.3	20	12	1				east
Fraxinus caroliniana	Pop ash	0.1	13	12		1			east
Ilex cassine	Dahoon	0.1	6	2	1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow				1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow				1				east
Itea virginica	Virginia willow						1		east
Itea virginica	Virginia willow				1				east
Rhizophora mangle	Red mangrove		1	4		1			east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove		12	4	1				east
Rhizophora mangle	Red mangrove		7	6	1				east
Rhizophora mangle	Red mangrove		4	2		1			east
Rhizophora mangle	Red mangrove		18	8	1				east
Rhizophora mangle	Red mangrove		5	4	1				east
Rhizophora mangle	Red mangrove		7	4	1				east
Rhizophora mangle	Red mangrove		15	8	1				east
Rhizophora mangle	Red mangrove		7	4	1				east
Rhizophora mangle	Red mangrove		8	4	1				east
Rhizophora mangle	Red mangrove		7	4	1				east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove						1		east
Rhizophora mangle	Red mangrove		10	8	1				east

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

07/05/02



**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Sabal palmetto	Cabbage palm		40		1				east
Sabal palmetto	Cabbage palm		10		1				east
Sabal palmetto	Cabbage palm		12		1				east
Sabal palmetto	Cabbage palm		19		1				east
Sabal palmetto	Cabbage palm		35		1				east
Sabal palmetto	Cabbage palm		35		1				east
Sabal palmetto	Cabbage palm		40		1				east
Sabal palmetto	Cabbage palm		25		1				east
Sabal palmetto	Cabbage palm		12		1				east
Sabal palmetto	Cabbage palm		5		1				east
Sabal palmetto	Cabbage palm		30		1				east
Sabal palmetto	Cabbage palm		15		1				east
Sabal palmetto	Cabbage palm		15		1				east
Sabal palmetto	Cabbage palm		30		1				east
Sabal palmetto	Cabbage palm		40		1				east
Sabal palmetto	Cabbage palm		21		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		35		1				east
Sabal palmetto	Cabbage palm		40		1				east
Sabal palmetto	Cabbage palm		28		1				east
Taxodium distichum	Bald cypress	0.6	40	12	1				east
Taxodium distichum	Bald cypress	0.5	28	10	1				east
Taxodium distichum	Bald cypress	0.2	15	10	1				east
Taxodium distichum	Bald cypress	0.2	18	12	1				east
Taxodium distichum	Bald cypress	0.5	28	13	1				east
Taxodium distichum	Bald cypress	0.5	18	12	1				east
Taxodium distichum	Bald cypress	0.2	15	10		1			east
Taxodium distichum	Bald cypress	0.6	18	20	1				east
Taxodium distichum	Bald cypress	1.3	35	20	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-C (continued)**

(lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 1/17/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Taxodium distichum	Bald cypress	1.3	45	24	1				east
Taxodium distichum	Bald cypress	1.0	14	16	1				east
Taxodium distichum	Bald cypress	1.0	30	28	1				east
Taxodium distichum	Bald cypress	0.2	15	10		1			east
Taxodium distichum	Bald cypress	0.3	16	14	1				east
Taxodium distichum	Bald cypress	0.3	20	16		1			east
Taxodium distichum	Bald cypress	0.1	10	10		1			east
Taxodium distichum	Bald cypress	0.1	14	10		1			east
Taxodium distichum	Bald cypress	3.5	28	28	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-B**

(lat -80.160870447/lon 26.983861002; river mile 9.2, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Rhizophora mangle	Red mangrove		14	200*	100*				west
Sabal palmetto	Cabbage palm		22		1				west
Sabal palmetto	Cabbage palm		24		1				west
Sabal palmetto	Cabbage palm		32		1				west
Sabal palmetto	Cabbage palm		18		1				west
Sabal palmetto	Cabbage palm		15		1				west
Sabal palmetto	Cabbage palm		15		1				west
Sabal palmetto	Cabbage palm		10		1				west
Sabal palmetto	Cabbage palm		12		1				west
Sabal palmetto	Cabbage palm		14		1				west
Sabal palmetto	Cabbage palm		8		1				west
Sabal palmetto	Cabbage palm		8		1				west
Sabal palmetto	Cabbage palm		12		1				west
Taxodium distichum	Bald cypress		26	10	1				west
Taxodium distichum	Bald cypress		26	15	1				west
Taxodium distichum	Bald cypress		26	15	1				west
Annona glabra	Pond apple		13	8				1	east
Annona glabra	Pond apple		15					1	east
Annona glabra	Pond apple	0.3	14	6	1				east
Annona glabra	Pond apple	0.3	14	6	1				east
Annona glabra	Pond apple	0.3	14	6	1				east
Annona glabra	Pond apple	0.3	14	6	1				east
Annona glabra	Pond apple	0.3	14	6	1				east
Annona glabra	Pond apple	0.3	14	12	1				east
Annona glabra	Pond apple	0.3	14	3	1				east
Annona glabra	Pond apple	0.3	14	3	1				east
Annona glabra	Pond apple	0.3	14	3	1				east

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-B (continued)**

(lat -80.160870447/lon 26.983861002; river mile 9.2, surveyed 1/15/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	0.0	8	8	1				east
Fraxinus caroliniana	Pop ash	0.2	16		1				east
Fraxinus caroliniana	Pop ash	0.5	12	8				1	east
Ilex cassine	Dahoon		14	3	1				east
Ilex cassine	Dahoon	0.2	12	4	1				east
Rhizophora mangle	Red mangrove		14	200*	100*				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		20		1				east
Sabal palmetto	Cabbage palm		14		1				east
Sabal palmetto	Cabbage palm		6		1				east
Sabal palmetto	Cabbage palm		19		1				east
Sabal palmetto	Cabbage palm		14		1				east
Sabal palmetto	Cabbage palm		16		1				east
Sabal palmetto	Cabbage palm		24		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		20		1				east
Sabal palmetto	Cabbage palm		16		1				east
Sabal palmetto	Cabbage palm		20		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		26		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		22		1				east
Sabal palmetto	Cabbage palm		16		1				east
Sabal palmetto	Cabbage palm		26		1				east
Sabal palmetto	Cabbage palm		24		1				east
Sabal palmetto	Cabbage palm		30		1				east
Sabal palmetto	Cabbage palm		25		1				east
Taxodium distichum	Bald cypress		28	11	1				east

\*indicates estimated value

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-A**

(lat -80.159358557/lon 26.985374135; river mile 9.1, surveyed 1/16/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Annona glabra	Pond apple	1.0	10	10	1				west
Annona glabra	Pond apple	0.5	10	5				1	west
Annona glabra	Pond apple	0.6	10	5				1	west
Annona glabra	Pond apple	0.6	10	5				1	west
Annona glabra	Pond apple	0.3	8	6	1				west
Annona glabra	Pond apple	0.5	10	5				1	west
Annona glabra	Pond apple	0.3	8	3				1	west
Annona glabra	Pond apple	0.3	12	7				1	west
Annona glabra	Pond apple	0.5	10	6				1	west
Annona glabra	Pond apple	0.5	12	10	1				west
Annona glabra	Pond apple	0.3	4	4	1				west
Annona glabra	Pond apple	0.3	11	3				1	west
Annona glabra	Pond apple	0.3	12	3	1				west
Fraxinus caroliniana	Pop ash	0.3	11	2		1			west
Itea virginica	Virginia willow				1				west
Itea virginica	Virginia willow						1		west
Rhizophora mangle	Red mangrove		9	200*	100*				west
Sabal palmetto	Cabbage palm		18		1				west
Sabal palmetto	Cabbage palm		13		1				west
Sabal palmetto	Cabbage palm		18		1				west
Sabal palmetto	Cabbage palm		16		1				west
Sabal palmetto	Cabbage palm		22		1				west
Sabal palmetto	Cabbage palm		15		1				west
Sabal palmetto	Cabbage palm		12		1				west
Sabal palmetto	Cabbage palm		15		1				west
Sabal palmetto	Cabbage palm		16		1				west
Sabal palmetto	Cabbage palm		16		1				west
Sabal palmetto	Cabbage palm		16		1				west
Sabal palmetto	Cabbage palm		4.5		1				west

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 9-A (continued)**

(lat -80.159358557/lon 26.985374135; river mile 9.1, surveyed 1/16/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Sabal palmetto	Cabbage palm		4		1				west
Annona glabra	Pond apple		11	8					east
Annona glabra	Pond apple	0.5	15	7				1	east
Annona glabra	Pond apple	0.6	12	10	1				east
Annona glabra	Pond apple	1.0	12	10	1				east
Annona glabra	Pond apple		5	3	1				east
Annona glabra	Pond apple	0.2	6	1		1			east
Annona glabra	Pond apple	0.2	6	1	1				east
Annona glabra	Pond apple	0.5	8	7	1				east
Annona glabra	Pond apple	0.6	9	6	1				east
Annona glabra	Pond apple	0.3	9	8	1				east
Annona glabra	Pond apple	0.5	6	8	1				east
Annona glabra	Pond apple	0.8	7	8	1				east
Rhizophora mangle	Red mangrove			200*	100*				east
Taxodium distichum	Bald cypress	0.3	15	4		1			east
Taxodium distichum	Bald cypress	0.3	14	4		1			east
Taxodium distichum	Bald cypress	0.3	14	4		1			east
Taxodium distichum	Bald cypress	0.3	14	4		1			east

\*indicates estimated value

**Quantitative Vegetation Survey of the NW Fork Loxahatchee River: Site 8-C**

(lat -80.157838347/lon 26.989749400; river mile 8.7, surveyed 1/16/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Sabal palmetto	Cabbage palm		10		1				w
Sabal palmetto	Cabbage palm		10		1				w
Sabal palmetto	Cabbage palm		8		1				w
Sabal palmetto	Cabbage palm		8		1				w
Sabal palmetto	Cabbage palm		11		1				w
Sabal palmetto	Cabbage palm		13		1				w
Rhizophora mangle	Red mangrove		9	200*	100*				w
Taxodium distichum	Bald cypress	1.0	14	16	1				e
Taxodium distichum	Bald cypress		13	8	1				e
Taxodium distichum	Bald cypress		17	18	1				e
Taxodium distichum	Bald cypress	1.0	24	9	1				e
Sabal palmetto	Cabbage palm		13		1				e
Sabal palmetto	Cabbage palm		12		1				e
Sabal palmetto	Cabbage palm		12		1				e
Sabal palmetto	Cabbage palm		17		1				e
Sabal palmetto	Cabbage palm		8		1				e
Rhizophora mangle	Red mangrove		9	160*	80*				e

\*indicates estimated value

**Quantitative Vegetative Survey of NW Fork Loxahatchee River: Site 8-B**

(lat -80.155118577/lon 26.989388511; river mile 8.4, surveyed 1/14/02)

Scientific Name	Common Name	DBH (ft)	Height (ft)	Canopy diameter (ft)	No. of Adults	No. of Saplings	No. of Seedlings	No. of Stump sprouts	Bank
Rhizophora mangle	Red mangrove		8	200*	100*				north
Sabal palmetto	Cabbage palm		18		1				north
Sabal palmetto	Cabbage palm		17		1				north
Sabal palmetto	Cabbage palm		9		1				north
Sabal palmetto	Cabbage palm		18		1				north
Sabal palmetto	Cabbage palm		12		1				north
Sabal palmetto	Cabbage palm		17		1				north
Sabal palmetto	Cabbage palm		20		1				north
Rhizophora mangle	Red mangrove		8	200*	100*				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		16		1				south
Sabal palmetto	Cabbage palm		16		1				south
Sabal palmetto	Cabbage palm		16		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		10		1				south
Sabal palmetto	Cabbage palm		20		1				south
Sabal palmetto	Cabbage palm		20		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		19		1				south
Sabal palmetto	Cabbage palm		19		1				south
Sabal palmetto	Cabbage palm		19		1				south
Sabal palmetto	Cabbage palm		19		1				south
Sabal palmetto	Cabbage palm		17		1				south



**Quantitative Vegetative Survey of the NW Fork Loxahatchee River: Site 8-B (continued)**

(lat -80.155118577/lon 26.989388511; river mile 8.4, surveyed 1/14/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		30		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		20		1				south
Sabal palmetto	Cabbage palm		20		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		22		1				south
Sabal palmetto	Cabbage palm		22		1				south
Sabal palmetto	Cabbage palm		22		1				south
Sabal palmetto	Cabbage palm		22		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Sabal palmetto	Cabbage palm		25		1				south
Taxodium distichum	Bald cypress		25	12	1				south
Taxodium distichum	Bald cypress		25	12	1				south
Taxodium distichum	Bald cypress		25	12	1				south

\*indicates estimated value

**Quantitative Vegetative Survey of the NW Fork Loxahatchee River: Site V-7**

(river mile 7.95, surveyed 1/14/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Rhizophora mangle	Red mangrove		7	200*	100*				north
Sabal palmetto	Cabbage palm		20		1				north
Sabal palmetto	Cabbage palm		8		1				north
Sabal palmetto	Cabbage palm		12		1				north
Sabal palmetto	Cabbage palm		18		1				north
Sabal palmetto	Cabbage palm		13		1				north
Sabal palmetto	Cabbage palm		13		1				north
Sabal palmetto	Cabbage palm		10		1				north
Sabal palmetto	Cabbage palm		20		1				north
Sabal palmetto	Cabbage palm		22		1				north
Sabal palmetto	Cabbage palm		16		1				north
Sabal palmetto	Cabbage palm		10		1				north
Sabal palmetto	Cabbage palm		23		1				north
Sabal palmetto	Cabbage palm		10		1				north
Sabal palmetto	Cabbage palm		13		1				north
Sabal palmetto	Cabbage palm		11		1				north
Sabal palmetto	Cabbage palm		15		1				north
Sabal palmetto	Cabbage palm		17		1				north
Sabal palmetto	Cabbage palm		15		1				north
Sabal palmetto	Cabbage palm		25		1				north
Sabal palmetto	Cabbage palm		17		1				north
Sabal palmetto	Cabbage palm		20		1				north
Sabal palmetto	Cabbage palm		8		1				north
Sabal palmetto	Cabbage palm		22		1				north
Sabal palmetto	Cabbage palm		10		1				north
Sabal palmetto	Cabbage palm		12		1				north
Sabal palmetto	Cabbage palm		16		1				north
Sabal palmetto	Cabbage palm		15		1				north
Rhizophora mangle	Red mangrove		8	200*	100*				south

**Quantitative Vegetative Survey of the NW Fork Loxahatchee River: Site V-7 (continued)**

(river mile 7.95, surveyed 1/14/02)

<b>Scientific Name</b>	<b>Common Name</b>	<b>DBH (ft)</b>	<b>Height (ft)</b>	<b>Canopy diameter (ft)</b>	<b>No. of Adults</b>	<b>No. of Saplings</b>	<b>No. of Seedlings</b>	<b>No. of Stump sprouts</b>	<b>Bank</b>
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		12		1				south
Sabal palmetto	Cabbage palm		12		1				south
Sabal palmetto	Cabbage palm		16		1				south
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		16		1				south
Sabal palmetto	Cabbage palm		10		1				south
Sabal palmetto	Cabbage palm		10		1				south
Sabal palmetto	Cabbage palm		18		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		12		1				south
Sabal palmetto	Cabbage palm		15		1				south
Sabal palmetto	Cabbage palm		17		1				south
Sabal palmetto	Cabbage palm		20		1				south
Sabal palmetto	Cabbage palm		18		1				south

\*indicates estimated value

**Semiquantitative Vegetation Survey of NW Fork Loxahatchee River**

Site V-1 (river mile 10.6, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3.5
<i>Acrostichum</i> sp.	Leather fern	3.5
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	2.5
<i>Baccharis</i> sp.	Saltbush	2
<i>Blechnum serrulatum</i>	Swamp fern	1
<i>Boehmeria cylindrica</i>	False nettle	1
<i>Carya aquatica</i>	Water hickory	2
<i>Crinum americanum</i>	String lily	2.5
<i>Ficus aurea</i>	Golden fig	2
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Hydrocotyl</i> sp.	Water pennywort	present
<i>Hyptis</i> sp.		1
<i>Ilex cassine</i>	Dahoon	2
<i>Ipomoea alba</i>	Moon flower	2
<i>Ipomoea</i> sp.	Morning glory	1
<i>Itea virginica</i>	Virginia willow	3.5
<i>Limnophila</i> sp.		present
<i>Ludwigia peruviana</i>	Water primrose	1
<i>Ludwigia repens</i>	Creeping primrose willow	present
<i>Lygodium microphyllum</i>	Japanese climbing fern	1
<i>Mikania scandens</i>	Climbing hempvine	2
<i>Myrica cerifera</i>	Wax myrtle	1
<i>Nephrolepis</i> sp.	Wild Boston fern	present
<i>Osmunda regalis</i>	Royal fern	1
<i>Persea borbonia</i>	Red bay	1.5
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Poaceae</i> spp.		1
<i>Polygonum</i> sp.	Swamp smartweed	present
<i>Pontederia cordata</i>	Pickerelweed	1
<i>Quercus laurifolia</i>	Laurel oak	2
<i>Sabal palmetto</i>	Cabbage palm	1.5
<i>Salix caroliniana</i>	Swamp willow	1
<i>Sarcostemma clausum</i>	White vine	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Smilax</i> sp.	Greenbriar	1
<i>Syzygium cumini</i>	Java plum	3
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia balbisiana</i>		present
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia setaceae</i>		present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2
<i>Vitis munsoniana</i>	Wild grape	1

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 10-C (lat -80.165192015/lon 26.976525692; river mile 10.4, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3.5
<i>Acrostichum</i> sp.	Leather fern	3.5
<i>Annona glabra</i>	Pond apple	3.5
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccharis</i> sp.	Saltbush	2
<i>Bacopa monnieri</i>	Water hyssop	present
<i>Crinum americanum</i>	String lily	2
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Ilex cassine</i>	Dahoon	3
<i>Itea virginica</i>	Virginia willow	2
<i>Limnophila</i> sp.		present
<i>Ludwigia peruviana</i>	Water primrose	2
<i>Ludwigia repens</i>	Creeping primrose willow	present
<i>Lygodium microphyllum</i>	Japanese climbing fern	2.5
<i>Mikania scandens</i>	Climbing hempvine	2
<i>Pandanus</i> sp.		2
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Polygonum</i> sp.	Swamp smartweed	present
<i>Quercus laurifolia</i>	Laurel oak	2
<i>Sabal palmetto</i>	Cabbage palm	2
<i>Salix caroliniana</i>	Swamp willow	2
<i>Sarcostemma clausum</i>	White vine	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	1
<i>Syzygium cumini</i>	Java plum	2
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia balbisiana</i>		present
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site V-3 (river mile 10.3, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3
<i>Acrostichum</i> sp.	Leather fern	3.5
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccharis</i> sp.	Saltbush	2
<i>Blechnum serrulatum</i>	Swamp fern	2
<i>Carya aquatica</i>	Water hickory	2
<i>Crinum americanum</i>	String lily	2
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Hydrocotyl</i> sp.	Water pennywort	present
<i>Ilex cassine</i>	Dahoon	3.5
<i>Ipomoea alba</i>	Moon flower	1
<i>Itea virginica</i>	Virginia willow	2.5
<i>Ludwigia peruviana</i>	Water primrose	2
<i>Ludwigia repens</i>	Creeping primrose willow	present
<i>Lygodium microphyllum</i>	Japanese climbing fern	2
<i>Mikania scandens</i>	Climbing hempvine	2
<i>Myrica cerifera</i>	Wax myrtle	2
<i>Osmunda regalis</i>	Royal fern	2
<i>Persea borbonia</i>	Red bay	1
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Poaceae</i> spp.		1
<i>Quercus laurifolia</i>	Laurel oak	2
<i>Rhizophora mangle</i>	Red mangrove	1
<i>Sabal palmetto</i>	Cabbage palm	2.5
<i>Salix caroliniana</i>	Swamp willow	2
<i>Sarcostemma clausum</i>	White vine	2.5
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Smilax</i> sp.	Greenbriar	2
<i>Syzygium cumini</i>	Java plum	2.5
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia balbisiana</i>	Air plant	present
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia setaceae</i>		present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2.5
<i>Vititis munsoniana</i>	Wild grape	1

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 10-B (lat -80.164987106/lon26.978938944; river mile 10.2, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	2
<i>Blechnum serrulatum</i>	Swamp fern	2
<i>Carya aquatica</i>	Water hickory	2
<i>Crinum americanum</i>	String lily	2.5
<i>Ficus aurea</i>	Golden fig	1
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Ilex cassine</i>	Dahoon	2
<i>Ipomoea alba</i>	Moon flower	present
<i>Itea virginica</i>	Virginia willow	2
<i>Limnophila</i> sp.		present
<i>Ludwigia peruviana</i>	Water primrose	2
<i>Lygodium microphyllum</i>	Japanese climbing fern	2
<i>Mikania scandens</i>	Climbing hempvine	2
<i>Myrica cerifera</i>	Wax myrtle	1
<i>Osmunda regalis</i>	Royal fern	2
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Salix caroliniana</i>	Swamp willow	2
<i>Sarcostemma clausum</i>	White vine	3
<i>Smilax</i> sp.	Greenbriar	1
<i>Syzygium cumini</i>	Java plum	2
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia fasciculata</i>	Stiff-leaved wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 10-A (lat -80.165062424/lon 26.980186754; river mile 10.1, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3
<i>Acrostichum</i> sp.	Leather fern	3.5
<i>Annona glabra</i>	Pond apple	3.5
<i>Aster caroliniana</i>	Carolina aster	3
<i>Crinum americanum</i>	String lily	2.5
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Ilex cassine</i>	Dahoon	2
<i>Itea virginica</i>	Virginia willow	2
<i>Limnophila</i> sp.		present
<i>Ludwigia peruviana</i>	Water primrose	2
<i>Mikania scandens</i>	Climbing hempvine	2
<i>Myrica cerifera</i>	Wax myrtle	3
<i>Osmunda regalis</i>	Royal fern	2.5
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Salix caroliniana</i>	Swamp willow	3
<i>Sarcostemma clausum</i>	White vine	3
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	3



**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site V-3 (river mile 9.9, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	1
<i>Acrostichum</i> sp.	Leather fern	3.5
<i>Annona glabra</i>	Pond apple	3.5
<i>Aster caroliniana</i>	Carolina aster	2
<i>Baccharis</i> sp.	Saltbush	1
<i>Blechnum serrulatum</i>	Swamp fern	2
<i>Crinum americanum</i>	String lily	2
<i>Dalbergia ecastaphyllum</i>	Coin vine	1
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Ilex cassine</i>	Dahoon	2
<i>Ipomoea alba</i>	Moon flower	1
<i>Ipomoea</i> sp.	Morning glory	1
<i>Ludwigia peruviana</i>	Water primrose	2.5
<i>Lygodium microphyllum</i>	Japanese climbing fern	2
<i>Mikania scandens</i>	Climbing hempvine	2
<i>Myrica cerifera</i>	Wax myrtle	2
<i>Nephrolepis</i> sp.	Wild Boston fern	present
<i>Osmunda regalis</i>	Royal fern	2
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Poaceae</i> spp.		1
<i>Quercus laurifolia</i>	Laurel oak	1.5
<i>Rhabdadenia biflora</i>	Rubber vine	2
<i>Rhizophora mangle</i>	Red mangrove	2
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Sagittaria lancifolia</i>	Lance-leaf arrowhead	1
<i>Salix caroliniana</i>	Swamp willow	2
<i>Sarcostemma clausum</i>	White vine	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Smilax</i> sp.	Greenbriar	2
<i>Syzygium cumini</i>	Java plum	1
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia balbisiana</i>	Air plant	present
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia setaceae</i>		present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2

**Semiquantitative Vegetation Survey of NW Fork Loxahatchee River**

Site 9-C (lat -80.163800034/lon 26.982719318; river mile 9.7, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	2
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccharis</i> sp.	Saltbush	2
<i>Crinum americanum</i>	String lily	1
<i>Dalbergia ecastaphyllum</i>	Coin vine	2
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Ludwigia peruviana</i>	Water primrose	1.5
<i>Mikania scandens</i>	Climbing hempvine	1.5
<i>Myrica cerifera</i>	Wax myrtle	2
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Polygonum</i> sp.	Swamp smartweed	1
<i>Rhizophora mangle</i>	Red mangrove	2.5
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Sarcostemma clausum</i>	White vine	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	1
<i>Syzygium cumini</i>	Java plum	1
<i>Taxodium distichum</i>	Baldcypress	4
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site V-4 (river mile 9.3, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	2
Annona glabra	Pond apple	1
Aster caroliniana	Carolina aster	2.5
Baccharis sp.	Saltbush	2
Blechnum serrulatum	Swamp fern	2
Carya aquatica	Water hickory	1
Dalbergia ecastaphyllum	Coin vine	2
Ilex cassine	Dahoon	1
Lygodium microphyllum	Japanese climbing fern	2
Mikania scandens	Climbing hempvine	2
Myrica cerifera	Wax myrtle	2
Nephrolepis sp.	Wild Boston fern	present
Osmunda regalis	Royal fern	2
Persea borbonia	Red bay	1.5
Phlebodium aureum	Golden polypody	present
Quercus laurifolia	Laurel oak	2
Rhabdadenia biflora	Rubber vine	1
Rhizophora mangle	Red mangrove	3
Sabal palmetto	Cabbage palm	3
Sarcostemma clausum	White vine	2
Schinus terebinthifolius	Brazilian pepper	2
Smilax sp.	Greenbriar	1
Taxodium distichum	Baldcypress	2
Tillandsia balbisiana	Air plant	present
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia setaceae		present
Tillandsia usneoides	Spanish moss	present
Toxicodendron radicans	Poison ivy	2

**Semiquantitative Vegetation Survey of NW Fork Loxahatchee River**

Site 9-B (lat -80.160870447/lon 26.983861002; river mile 9.2, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	1
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccharis</i> sp.	Saltbush	2
<i>Chrysobalanus icaco</i>	Coco plum	1
<i>Dalbergia ecastaphyllum</i>	Coin vine	1
<i>Eugenia uniflora</i>	Surinam cherry	1
<i>Fraxinus caroliniana</i>	Pop ash	1
<i>Ilex cassine</i>	Dahoon	1
<i>Myrica cerifera</i>	Wax myrtle	1
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Rhizophora mangle</i>	Red mangrove	4
<i>Roystonea regia</i>	Royal palm	1
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Sarcostemma clausum</i>	White vine	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Syzygium cumini</i>	Java plum	1
<i>Taxodium distichum</i>	Baldcypress	3
<i>Toxicodendron radicans</i>	Poison ivy	1

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 9-A (lat -80.159358557/lon 26.985374195; river mile 9.1, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	1
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccharis</i> sp.	Saltbush	2
<i>Dalbergia ecastaphyllum</i>	Coin vine	2
<i>Ilex cassine</i>	Dahoon	1
<i>Phlebodium aureum</i>	Golden polypody	present
<i>Rhabdadenia biflora</i>	Rubber vine	2
<i>Rhizophora mangle</i>	Red mangrove	4
<i>Sabal palmetto</i>	Cabbage palm	4
<i>Salix caroliniana</i>	Swamp willow	2
<i>Sarcostemma clausum</i>	White vine	2.5
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Taxodium distichum</i>	Baldcypress	3
<i>Toxicodendron radicans</i>	Poison ivy	1.5
<i>Typha domingensis</i>	Cattail	2
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 8-D (river mile 8.9, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	1
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	3
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccharis</i> sp.	Saltbush	1.5
<i>Dalbergia ecastaphyllum</i>	Coin vine	1
<i>Ilex cassine</i>	Dahoon	1
<i>Rhabdadenia biflora</i>	Rubber vine	2
<i>Rhizophora mangle</i>	Red mangrove	4
<i>Roystonea regia</i>	Royal palm	1
<i>Sabal palmetto</i>	Cabbage palm	3.5
<i>Sarcostemma clausum</i>	White vine	1
<i>Schinus terebinthifolius</i>	Brazilian pepper	1.5
<i>Taxodium distichum</i>	Baldcypress	3.5
<i>Tillandsia fasciculata</i>	Stiff-leaved wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site V-5 (river mile 8.8, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acrostichum</i> sp.	Leather fern	1.5
<i>Annona glabra</i>	Pond apple	2
<i>Aster caroliniana</i>	Carolina aster	2.5
<i>Bacopa monnieri</i>	Water hyssop	1
<i>Crinum americanum</i>	String lily	1
<i>Dalbergia ecastaphyllum</i>	Coin vine	2.5
<i>Laguncularia racemosa</i>	White mangrove	1.5
<i>Ludwigia peruviana</i>	Water primrose	1
<i>Mikania scandens</i>	Climbing hempvine	1
<i>Myrica cerifera</i>	Wax myrtle	2
<i>Osmunda regalis</i>	Royal fern	2
<i>Poaceae</i> spp.		1
<i>Rhabdadenia biflora</i>	Rubber vine	2
<i>Rhizophora mangle</i>	Red mangrove	4
<i>Roystonea regia</i>	Royal palm	1
<i>Sabal palmetto</i>	Cabbage palm	3.5
<i>Salix caroliniana</i>	Swamp willow	1
<i>Sarcostemma clausum</i>	White vine	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Syzygium cumini</i>	Java plum	1
<i>Taxodium distichum</i>	Baldcypress	2
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 8-C (lat -80.157838347/lon 26.989749400; river mile 8.7, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	3
Annona glabra	Pond apple	3
Aster caroliniana	Carolina aster	2
Baccharis sp.	Saltbush	1
Laguncularia racemosa	White mangrove	1
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	3.5
Schinus terebinthifolius	Brazilian pepper	1
Taxodium distichum	Baldcypress	2
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site V-6 (river mile 8.55, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	2
Aster caroliniana	Carolina aster	2.5
Baccharis sp.	Saltbush	1
Dalbergia ecastaphyllum	Coin vine	2.5
Mikania scandens	Climbing hempvine	2
Phlebodium aureum	Golden polypody	present
Rhabdadenia biflora	Rubber vine	2.5
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	3
Schinus terebinthifolius	Brazilian pepper	2
Taxodium distichum	Baldcypress	1
Tillandsia balbisiana		present
Tillandsia fasciculata	Stiff-leafed wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia setaceae		present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 8-B (lat -80.155118577/lon 26.989388511; river mile 8.4, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	3
Aster caroliniana	Carolina aster	3
Laguncularia racemosa	White mangrove	1
Rhabdadenia biflora	Rubber vine	3
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	3
Sarcostemma clausum	White vine	1
Schinus terebinthifolius	Brazilian pepper	1
Taxodium distichum	Baldcypress	2
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 8-A (lat -80.153982377/lon 26.990833609; river mile 8.1, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Aster caroliniana	Carolina aster	1
Baccharis sp.	Saltbush	1
Phragmites australis	Giant reed	1.5
Rhabdadenia biflora	Rubber vine	2
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	4
Taxodium distichum	Baldcypress	1

**Semiquantitative Vegetation Survey of NW Fork Loxahatchee River**

Site V-7 (river mile 7.95, surveyed 12/12/01)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	1
Annona glabra	Pond apple	1
Aster caroliniana	Carolina aster	1
Crinum americanum	String lily	1
Dalbergia ecastaphyllum	Coin vine	1
Laguncularia racemosa	White mangrove	2
Rhabdadenia biflora	Rubber vine	3
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	3
Schinus terebinthifolius	Brazilian pepper	2
Taxodium distichum	Baldcypress	1
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present



**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 7-C (lat -80.150862762/lon 26.988849080; river mile 7.8, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	2
Aster caroliniana	Carolina aster	2
Baccharis sp.	Saltbush	2
Blechnum serrulatum	Swamp fern	1
Chrysobalanus icaco	Coco plum	1
Crinum americanum	String lily	1
Dalbergia ecastaphyllum	Coin vine	3
Lygodium microphyllum	Japanese climbing fern	2
Myrica cerifera	Wax myrtle	2
Rhabdadenia biflora	Rubber vine	3
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	3.5
Schinus terebinthifolius	Brazilian pepper	2
Taxodium distichum	Baldcypress	1
Toxicodendron radicans	Poison ivy	1

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 7-B (-80.149975096/lon 26.99106662; river mile 7.5, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	3
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	3

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 6-B (lat -80.147410631/lon 26.988542914; river mile 6.8, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	1
Dalbergia ecastaphyllum	Coin vine	1
Juncus roemerianus	Black needlerush	2
Laguncularia racemosa	White mangrove	3
Myrica cerifera	Wax myrtle	1
Phragmites australis	Giant reed	1
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	2.5
Schinus terebinthifolius	Brazilian pepper	2

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 6-A (lat -80.143669519/lon 26.984342169; river mile 6.2, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Casuarina sp.	Australian pine	1
Dalbergia ecastaphyllum	Coin vine	1
Rhabdadenia biflora	Rubber vine	3
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	1.5
Schinus terebinthifolius	Brazilian pepper	1

**Semiquantitative Vegetation Survey of the NW Fork Loxahatchee River**

Site 5-B (lat -80.139039353/lon 26.982712901; river mile 5.6, surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Dalbergia ecastaphyllum	Coin vine	3
Rhizophora mangle	Red mangrove	4
Schinus terebinthifolius	Brazilian pepper	2

**Semiquantitative Vegetative Survey of Kitching Creek**

Site A (lat -80.154898869/lon 26.991771447; surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	2
Annona glabra	Pond apple	2
Baccharis sp.	Saltbush	2
Dalbergia ecastaphyllum	Coin vine	2
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	4
Taxodium distichum	Baldcypress	2
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetative Survey of Kitching Creek**

Site B (lat -80.155330876/lon 26.992670262; surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Annona glabra	Pond apple	2
Aster caroliniana	Carolina aster	2
Baccharis sp.	Saltbush	1
Bacopa monnieri	Water hyssop	present
Laguncularia racemosa	White mangrove	1
Rhabdadenia biflora	Rubber vine	2
Rhizophora mangle	Red mangrove	4
Sabal palmetto	Cabbage palm	4
Schinus terebinthifolius	Brazilian pepper	1
Taxodium distichum	Baldcypress	2
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetative Survey of Kitching Creek**

Site C (lat -80.156664449/lon 26.992851025; surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	3
Annona glabra	Pond apple	3
Aster caroliniana	Carolina aster	2
Bacopa monnieri	Water hyssop	present
Blechnum serrulatum	Swamp fern	2.5
Dalbergia ecastaphyllum	Coin vine	2
Laguncularia racemosa	White mangrove	2
Mikania scandens	Climbing hempvine	2
Quercus laurifolia	Laurel oak	2
Rhabdadenia biflora	Rubber vine	1.5
Rhizophora mangle	Red mangrove	3
Sabal palmetto	Cabbage palm	3
Sarcostemma clausum	White vine	1
Taxodium distichum	Baldcypress	2.5
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present
Vitits munsoniana	Wild grape	1

**Semiquantitative Vegetative Survey of Kitching Creek**

Site D (lat -80.156095466/lon 26.993647772; surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	3
Annona glabra	Pond apple	2.5
Aster caroliniana	Carolina aster	1
Baccharis sp.	Saltbush	1
Bacopa monnieri	Water hyssop	present
Rhizophora mangle	Red mangrove	3
Sabal palmetto	Cabbage palm	3
Schinus terebinthifolius	Brazilian pepper	2
Taxodium distichum	Baldcypress	3
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present
Typha domingensis	Cattail	3

**Semiquantitative Vegetative Survey of Kitching Creek**

Site E (lat -80.155459331/lon 26.994103015; surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acrostichum sp.	Leather fern	3
Andropogon sp.	Broomsedge	2.5
Annona glabra	Pond apple	3
Aster caroliniana	Carolina aster	2
Baccharis sp.	Saltbush	2
Bacopa monnieri	Water hyssop	present
Blechnum serrulatum	Swamp fern	2.5
Crinum americanum	String lily	2
Eupatorium sp.	Dog fennel	2
Laguncularia racemosa	White mangrove	2
Myrica cerifera	Wax myrtle	2
Nephrolepis sp.	Wild Boston fern	2
Phlebodium aureum	Golden polypody	1
Poaceae spp.		1.5
Rhizophora mangle	Red mangrove	2
Sabal palmetto	Cabbage palm	3.5
Schinus terebinthifolius	Brazilian pepper	2.5
Smilax sp.	Greenbriar	2
Taxodium distichum	Baldcypress	3
Tillandsia fasciculata	Stiff-leafed wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetative Survey of Kitching Creek**

Site F (lat-80.156193578/lon 26.995723248; surveyed 11/14/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acer rubrum	Red maple	2
Acrostichum sp.	Leather fern	3
Annona glabra	Pond apple	3
Aster caroliniana	Carolina aster	3
Bacopa monnieri	Water hyssop	present
Blechnum serrulatum	Swamp fern	2
Crinum americanum	String lily	3
Ipomoea sp.	Morning glory	3
Lygodium microphyllum	Japanese climbing fern	2
Mikania scandens	Climbing hempvine	2
Myrica cerifera	Wax myrtle	2
Pontederia cordata	Pickeralweed	2
Quercus laurifolia	Laurel oak	2
Rhabdadenia biflora	Rubber vine	1.5
Rhizophora mangle	Red mangrove	3
Rhynchospora sp.	Beakrush	2
Sabal palmetto	Cabbage palm	3
Taxodium distichum	Baldcypress	4
Tillandsia fasciculata	Stiff-leaved wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia usneoides	Spanish moss	present

**Semiquantitative Vegetative Survey of Kitching Creek**

Site G (surveyed 11/28/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	2
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	4
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccaris</i> sp.	Saltbush	1
<i>Bacopa monnieri</i>	Water hyssop	3
<i>Cephalanthus occidentalis</i>	Buttonbush	1
<i>Crinum americanum</i>	String lily	3
<i>Fraxinus caroliniana</i>	Pop ash	3
<i>Laguncularia racemosa</i>	White mangrove	2
<i>Mikania scandens</i>	Climbing hempvine	3
<i>Myrica cerifera</i>	Wax myrtle	2
<i>Nephrolepis</i> sp.	Wild Boston fern	2
<i>Osmunda regalis</i>	Royal fern	1
<i>Phlebodium aureum</i>	Golden polypody	2
<i>Pontederia cordata</i>	Pickereelweed	2
<i>Rhizophora mangle</i>	Red mangrove	2.5
<i>Rhynchospora</i> sp.	Beakrush	1
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Sarcostemma clausum</i>	White vine	3
<i>Schinus terebinthifolius</i>	Brazilian pepper	3
<i>Taxodium distichum</i>	Baldcypress	3.5
<i>Tillandsia balbisiana</i>	Air plant	present
<i>Tillandsia fasciculata</i>	Stiff-leaved wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Typha domingensis</i>	Cattail	3

**Semiquantitative Vegetative Survey of Kitching Creek**

Site H (surveyed 11/28/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3
<i>Acrostichum</i> sp.	Leather fern	4
<i>Annona glabra</i>	Pond apple	4
<i>Aster caroliniana</i>	Carolina aster	3
<i>Baccaris</i> sp.	Saltbush	2.5
<i>Cephalanthus occidentalis</i>	Buttonbush	2
<i>Crinum americanum</i>	String lily	3
<i>Fraxinus caroliniana</i>	Pop ash	2
<i>Laguncularia racemosa</i>	White mangrove	2
<i>Ludwigia peruviana</i>	Water primrose	2
<i>Ludwigia repens</i>	Creeping primrose willow	2
<i>Mikania scandens</i>	Climbing hempvine	3
<i>Polygonum</i> sp.	Swamp smartweed	2.5
<i>Pontederia cordata</i>	Pickeralweed	2
<i>Rhizophora mangle</i>	Red mangrove	1
<i>Sabal palmetto</i>	Cabbage palm	1
<i>Sarcostemma clausum</i>	White vine	2
<i>Saururus cernuus</i>	Lizard's tail	3
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Taxodium distichum</i>	Baldcypress	3
<i>Tillandsia balbisiana</i>	Air plant	present
<i>Tillandsia fasciculata</i>	Stiff-leaved wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Typha domingensis</i>	Cattail	2



**Semiquantitative Vegetative Survey of Kitching Creek**

Site I (surveyed 11/28/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
Acer rubrum	Red maple	2
Acrostichum sp.	Leather fern	3
Annona glabra	Pond apple	4
Aster caroliniana	Carolina aster	2
Baccaris sp.	Saltbush	2
Bacopa monnieri	Water hyssop	2
Blechnum serrulatum	Swamp fern	3
Boehmeria cylindrica	False nettle	1
Crinum americanum	String lily	3.5
Fraxinus caroliniana	Pop ash	2
Hypericum sp.		1.5
Hyptis sp.		2
Ilex cassine	Dahoon	1
Laguncularia racemosa	White mangrove	1
Ludwigia repens	Creeping primrose willow	present
Mikania scandens	Climbing hempvine	3
Osmunda regalis	Royal fern	3
Phlebodium aureum	Golden polypody	present
Poaceae sp.		1
Polygonum sp.	Swamp smartweed	present
Pontederia cordata	Pickeralweed	2
Rapanea punctata	Myrsine	1
Rhizophora mangle	Red mangrove	1
Rhynchospora sp.	Beakrush	2
Sabal palmetto	Cabbage palm	2
Sarcostemma clausum	White vine	2
Saururus cernuus	Lizard's tail	2.5
Schinus terebinthifolius	Brazilian pepper	2
Taxodium distichum	Baldcypress	3
Tillandsia balbisiana	Air plant	present
Tillandsia fasciculata	Stiff-leafed wild pine	present
Tillandsia recurvata	Ball moss	present
Tillandsia setaceae	Air plant	present
Tillandsia usneoides	Spanish moss	present
Vitits munsoniana	Wild grape	1

**Semiquantitative Vegetative Survey of Kitching Creek**

Site J (surveyed 11/28/00)

<b>Scientific Name</b>	<b>Common Name</b>	<b>Abundance Index</b>
<i>Acer rubrum</i>	Red maple	3
<i>Acrostichum</i> sp.	Leather fern	3
<i>Annona glabra</i>	Pond apple	3
<i>Apios americana</i>	American groundnut	1
<i>Ardisia escallonioides</i>	Marl berry	2
<i>Baccaris</i> sp.	Saltbush	2
<i>Blechnum serrulatum</i>	Swamp fern	3.5
<i>Boehmeria cylindrica</i>	False nettle	2
<i>Crinum americanum</i>	String lily	1
<i>Fraxinus caroliniana</i>	Pop ash	3
<i>Hydrocotyl</i> sp.	Water pennywort	1.5
<i>Hyptis</i> sp.		2
<i>Itea virginica</i>	Virginia willow	3
<i>Ludwigia repens</i>	Creeping primrose willow	present
<i>Lygodium microphyllum</i>	Japanese climbing fern	3
<i>Mikania scandens</i>	Climbing hempvine	2.5
<i>Osmunda regalis</i>	Royal fern	3
<i>Panicum</i> spp.		2.5
<i>Pleopeltis polypodioides</i>	Resurrection fern	present
<i>Polygonum</i> sp.	Swamp smartweed	present
<i>Rhabdadenia biflora</i>	Rubber vine	1
<i>Sabal palmetto</i>	Cabbage palm	3
<i>Saururus cernuus</i>	Lizard's tail	2
<i>Schinus terebinthifolius</i>	Brazilian pepper	2
<i>Taxodium distichum</i>	Baldcypress	3.5
<i>Tillandsia balbisiana</i>	Air plant	present
<i>Tillandsia fasciculata</i>	Stiff-leafed wild pine	present
<i>Tillandsia recurvata</i>	Ball moss	present
<i>Tillandsia setaceae</i>	Air plant	present
<i>Tillandsia usneoides</i>	Spanish moss	present
<i>Toxicodendron radicans</i>	Poison ivy	2
<i>Vigna luteola</i>	Cow pea	2
<i>Vititis munsoniana</i>	Wild grape	2
<i>Woodwardia</i> sp.	Chain fern	2